

# *American* FORESTS

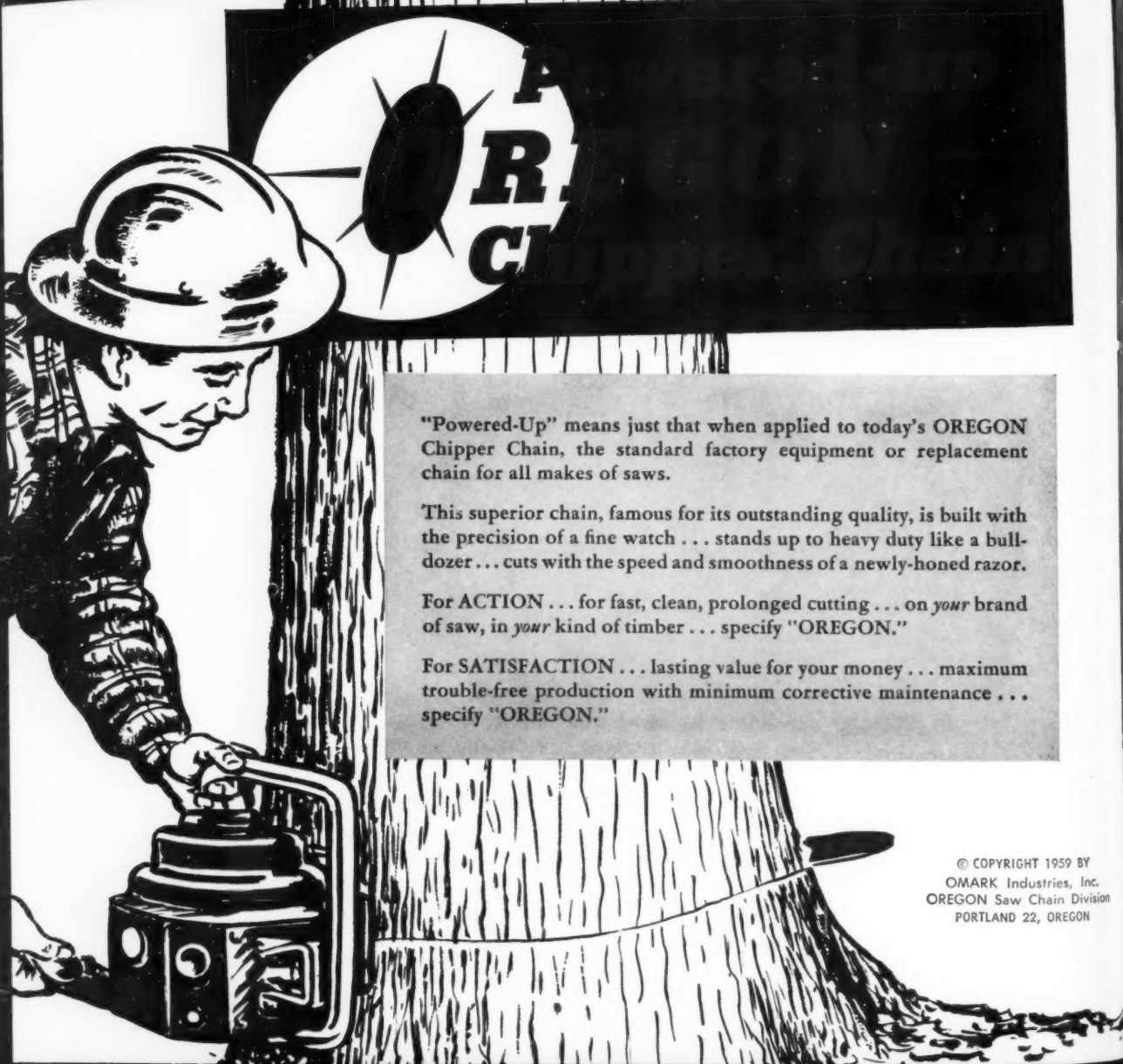
The Magazine of Forests, Soil, Water, Wildlife, and Outdoor Recreation  
JUNE 1960 50 CENTS



Dr. Hugh Bennett's Garden "on the Contour"

## SILVER ANNIVERSARY FOR THE SCS

PAGES 10-19



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Vol. 66, No. 6, June, 1960

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## THE COVER

Since he retired from the Soil Conservation Service, Dr. Hugh Bennett, former chief, has had more time for his garden at his home at "Eightoaks" in nearby Virginia. His garden is planted "on the contour" and in the springtime is a riot of color, including masses of creeping phlox, azaleas (some with red and white flowers on the same bush), dogwoods, redbuds, peas for quail and bobwhites, sweet potatoes, some fabulously big oaks, and the only "shipmast" locusts this side of Long Island. Last month found the Chief's garden at its loveliest in honor of the Silver Anniversary of the SCS.

PHOTO BY VINCENT FINNIGAN

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# Forest Forum

## Time For Decision

EDITOR:

The current "war" between the National Park Service and the U. S. Forest Service, sparked by the Park Service's zeal to assume responsibility for the management of recreational activities within national forests, is of public concern.

This action brings into focus the basic duty and responsibility of the Forest Service "to improve and protect the forest within the reservation for the purpose of securing favorable conditions of water flows and to furnish a continuous supply of timber for the use and necessities of the citizens of the United States."

The people of the United States are primarily concerned with this "war," for they may become the victims of this feud in later years. There is lack of awareness on the part of the public as to what the charge of supplying a continuous supply of wood and water means to every citizen. The man in the street is not conscious of the fact that the terrific "competition for land" may well throw the entire land use program out of balance and result in depriving the citizen of adequate wood and water supply within a generation or two.

Obscured by the smoke screen of the "war" are many vitally important economic facts—such as the expanding demand for land to provide the natural resources. Raw materials, food supply, areas for urban development, and a multiplicity of needs to support "exploding populations." Actually we are witnessing a struggle between two factions—one to acquire land for a single purpose as against a far-sighted long range program of land management to provide for the growing requirements for increased supplies of natural resources.

The urgent need for arriving at a balance in land use is obvious. Inconsistency in policy of federal land managers is apparent when one agency presses for an increase in forest growth and an acceleration of the cut whereas another agency drives for an absolute withdrawal of forest land from production to be devoted to a single purpose.

There is no disputing the fact that recreational and park areas are essential to the well-being of modern society. Recreation today as a business demands recognition. This demand is being squarely faced by the Forest Service through management for "multiple use" which includes recreation along with forests, water, range, and wildlife.

Recreation can be balanced with other forest uses. Growing and harvesting forest crops is a compatible use with recreation under designed management. Unless a balance in use is attained, the nation will be disastrously short of forest resources in future years.

Forest Service Chief Richard McArdle stated in a recent address that with "the possible diversion of forest lands for urban development, parks, and other purposes with the potential conversion to grow food, it appears that more than one-third of our timber growing capacity and one-fourth of our commercial forest land may seriously be sought for other purposes within the next few decades."

Is not the necessity for water and timber paramount to the current demand for more area for the single-purpose use of recreation? This is the public's concern.

Now is the time for decision. The "war" had best be resolved by responsible federal administrators and a balance of land use determined before the citizens of the nation become the victims of today's feud and ambitions of federal agencies to "build empires." The duty of the Forest Service still remains the order of the day "to furnish a continuous supply of timber for the use and necessities of the citizens of the United States."

Stuart Mair  
Forest Counsel,  
Oswego, Oregon

## "Pests, Pesticides, and People"



A. C. Worrell

In co-operation with the Conservation Foundation of New York City, AMERICAN FORESTS will publish next month a special 100-page issue featuring the foundation's most recent study in depth on the subject "Pests, Pesticides, and People."

This 36-page feature was researched and authored by Professor Albert C. Worrell of the School of Forestry of Yale University. Professor Worrell attacks the problem from the standpoint of the use of pesticides in their relationship to the public interest. His carefully-documented study includes the entire history of the gypsy moth control program. The last part of the report consists of his recommendations and conclusions.

In the opinion of both the Conservation Foundation and The Amer-

ican Forestry Association, Professor Worrell's study is an important contribution, and plans are being made to publish reprints of his study for further distribution.

Prof. Worrell is presently on leave of absence from Yale to serve as principal economist for the Economic Commission for Latin America on a study of timber trends and prospects in that area. Since 1955, he has been associate professor of forest economics at Yale and is the director of that school's summer forestry camp. Professor Worrell received his forestry education at Pennsylvania State College and the University of Michigan. He was awarded a Ph.D. degree in forest economics from Michigan in 1953. Prior to joining the Yale faculty, he worked for the Maryland Division of Forests and Parks, the Soil Conservation Service, and the Virginia Forest Service. From 1947 to 1955 he taught forest economics and mensuration at the Georgia School of Forestry. He is the author of "Economics of American Forestry."

## Lauds Wilderness Stand

EDITOR:

Your stand on wilderness legislation is almost unique in conservation organizations—because it is so level-headed. MY CONGRATULATIONS—

Robert E. Reinhardt  
3483 South Utah Street  
Arlington 6, Virginia

## Rights of Ownership

EDITOR:

I was very much interested in the article by Robert R. Bowers in your March issue, and also in the letter on this subject by J. N. Borglin in your April issue.

This subject of hunting on private lands is obviously one of rapidly increasing importance. It seems to me that many of the very large private landowners in their widely publicized "free recreation" programs, as promulgated by American Forest Products Industries, are moving in a direction that is completely impossible and impractical for the small and medium forest landowners. The only possible solution for the small and medium owners is one of leasing or sharing work, as Mr. Bowers and Mr. Borglin favor. Even for the large landowners, including public ownership, I feel the most logical



solution is one of requiring recreational users to pay "recreational stumpage," as has been suggested by several recent speakers in the West.

Norman B. Livermore, Jr.  
100 Bush Street  
San Francisco 4, California

### Paperback Dump

#### EDITOR:

My husband and I enjoy reading AMERICAN FORESTS. It is a splendid publication. Thanks.

But right now I have something else on my mind. Recently Paul R. Reynolds, in his book *The Writer and His Market*, stated that in 1953 more than 40 million copies of paperback books were dumped into the Great Lakes. As he explains it, this is due to the fact that the publisher has to guess as to the size of his offerings. If he guesses wrong and overprints, the return to him of unsold copies may be enormous, with a resulting financial loss. One of the results of this chaotic distribution, this overprinting or underprinting, is that the business is feast or famine. Overprinting seems to run in cycles, and when the cycle occurs, millions of paperbacks remain unsold then get destroyed all at once and a new cycle begins. Hence the big dumping in 1953.

I am so incensed by the waste of wood-pulp in the destruction of the paperback books that I want to utter a protest. I assume that wood pulp is the material used to produce the stock on which these paperbacks are printed, and I would like to know—in some terms that I and others could comprehend—what these 40 million paperbacks represent in, say, board feet of lumber, or number of trees.

Any attack on any activity of the publishing business—however far the activity may be removed from the intent of Article One of the Bill of Rights—is, I know, pounced upon as an attack on freedom of the press, but is it not within reason that the owners of such express printed matter should be required to make delivery of it to some pulp and paper reprocessing plant, or in some other manner put it to use?

I don't know my way around in the lobbying world, and so I would appreciate advice from you as to the avenue for bringing this matter to the attention of someone who would try to do something about it. Perhaps The American Forestry Association is the organization to handle it. If so, please carry on.

(Mrs.) Margaret S. Chandlee  
P. O. Box 483  
Yreka, California

(The average paperback varies in weight from somewhat less to somewhat more than a quarter of a pound. Many of the westerns and "mysteries" are somewhat less, while the more picaresque tales go quite a bit over. Many of these books are made from balsam fir, large quantities of which are produced in Maine. Using balsam fir volume tables for the state of Maine, we estimate that producing 40 million paperbacks would require between 30,000 and 40,000 balsams growing on from 100 to 140 acres of land. To grow that much wood in any one given year would require around 6,000 acres. However, in the event that spruce was used, the totals in all cases would be somewhat less, since spruce grows taller than balsam.

However, we aren't lobbyists either, so we're afraid we can't help you on the last phase of your letter.—Editor)

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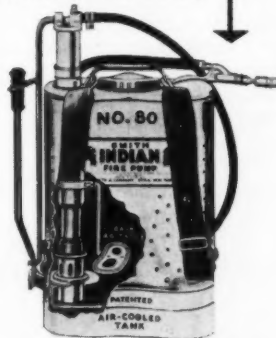
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Reading  
about

## RESOURCES



By MONROE BUSH

### Marston Bates Looks at Ecology

**T**HE *Forest and the Sea* by Marston Bates (Random House, 1960. \$3.95) is the most engrossing report on the interrelationships of life that I have read. With dazzling scholarship and a sharp pen, this University of Michigan professor has lifted the level of ecological exposition to a point beyond the reach of all but a handful of his peers.

"Rain forests, cloud forests, coral reefs, ocean depths, all these are examples of different kinds of biological communities. These different communities, however, are not separate and independent entities; they are interrelated parts of the total system of the world of life, of the biosphere." This is the ecologist's thesis which Bates develops by means of what could be described roughly as three movements, concerned respectively with the sea, the forest, and finally with man's unique relationship to both.

However, the relationship of man to the natural world is so distinctively unique, and the chains of cause-and-effect so complex within all strata of nature, that the book can have no sharply defined sections, as themes and counter-themes are unwoven back and forth across the three movements. Indeed, the task of organizing his vast and varied material might well have been more difficult for Bates than the actual writing. The end result, whatever the technique that evolved it, is brilliantly refined proof of the unity of life.

Written for the literate layman, I suspect that specialists in both the biological and the social sciences will gain the most, for Bates relates the specialized and narrow fields to the total panoply of nature in a way that can give every expert new zest for his work. Here is the adventurer's vision of the long view in which all parts become whole.

Ecology implies continuity, and the author distinguishes at the outset the two basic aspects of continuity through which alone the interrelationships can be understood: they are space and time. "The idea of continuity in space is covered by the word biosphere; in time by the word evolution." All that he then goes on to say is framed implicitly by these dimensions. They supply, in a sense, an index for every unit of life; they are the terms which create the wholeness.

The sea is the oldest part of the biosphere. Water existed before either land or air—at least before the sort of land and air we know today. Not since Rachel Carson's phenomenally popular *The Sea Around Us*, has the subject of the sea's life been dealt with in such exciting clarity as in *The Forest and the Sea*. Though no more than 75 or 100 pages are concerned with it, the underwater worlds come alive as vividly as if the reader were himself a skin-diver, and with these panoramas of the marine community comes information few skin-divers ever possessed!

Whether he writes of plankton or porpoise, or of the countless other living wonders of the deep, Bates says just what should be said to unify the marine world, to relate its parts to one another, to prove the dramatic singleness of life.

The book moves from open sea and coral reef to the rain forest—the community of life in which Bates studied for eight years while based in eastern Colombia. "My two favorite kinds of places in this world are coral reefs and rain forests," he says, and we can believe him, for these are the richest portions of his text.

"The reef world is light with color and movement. The forest is all green and brown, dim and still. The reef is Baroque, the forest, Gothic.

"They have this in common: one is the product of the most favorable possible conditions for life in the sea, the other for life on land."

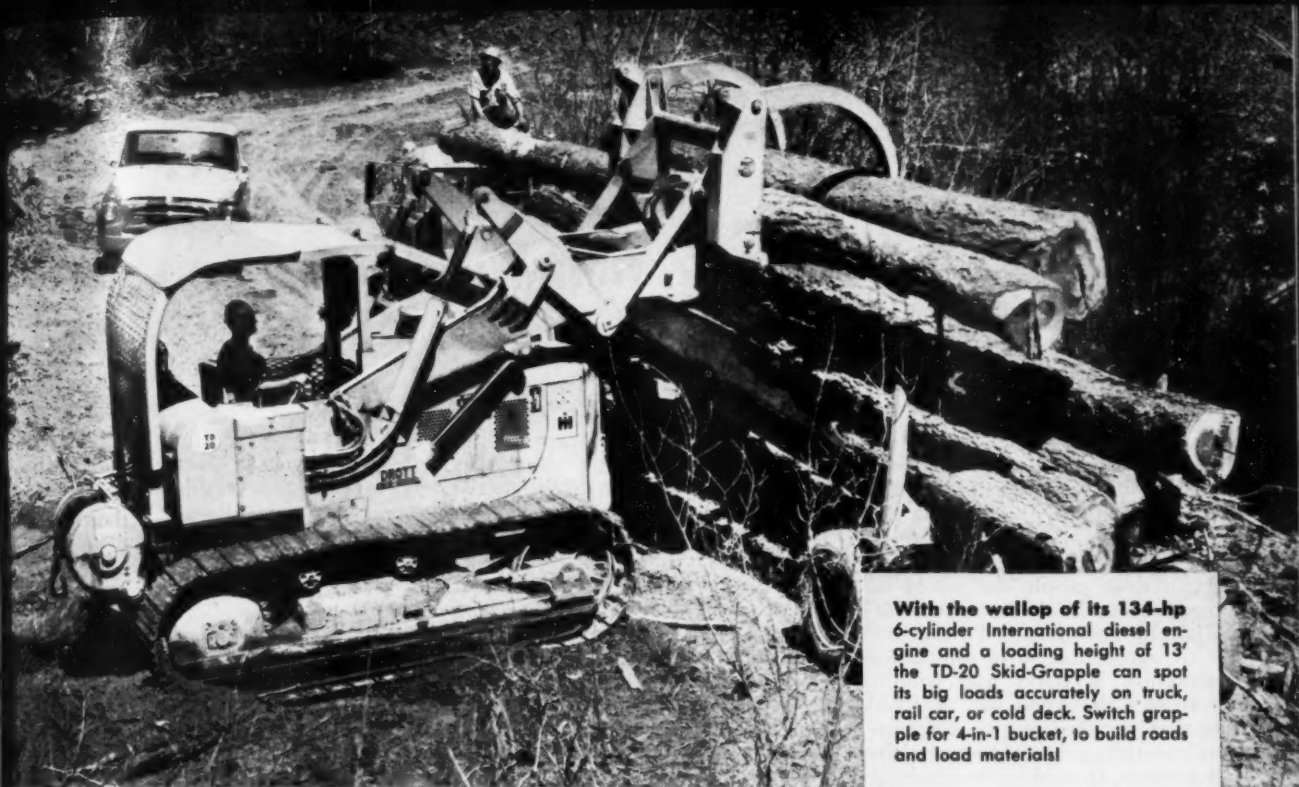
The author defines a rain forest as "the type of vegetation that occupies the lowland tropics in regions of high rainfall, where the rain is fairly evenly distributed throughout the year." And he delineates the three major tropical rain forest areas as the American, African, and Indo-Malayan.

It is in these remote and forbidding regions that "the wind scarcely penetrates; it is not only silent, it is still . . . The carpeting is thin . . . There is no thick accumulation of leaf mold like that of northern forests, no rich accumulation of humus. The processes of decay are too fast."

What Bates has to say is poetic, accurate, and consistently informative. For instance, "The world of western man is the world of the woods and grasslands of midlatitudes. This, I suspect, is not too far from the original human habitat. It seems likely that man became man—acquired his physical character and the beginnings of his culture—at the margins of the tropics, in places where the rain forest gave way to less overwhelming landscapes."

And it is only here, in the areas stretching from the "margins of the tropics" through "the woods and grasslands of midlatitudes," that Bates' great skills desert him. Having loved the coral reefs and rain forests, the man has simply not had time for the midlatitudes. He has not mastered them, and could not have been expected to do so—there are not enough years for any scholar. Consequently, then, *The Forest and the Sea* is not as balanced a book as the title suggests. Tropical rain forests are but a very small part of the

(Turn to page 54)



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—for A. J. Olds, Quincy, California

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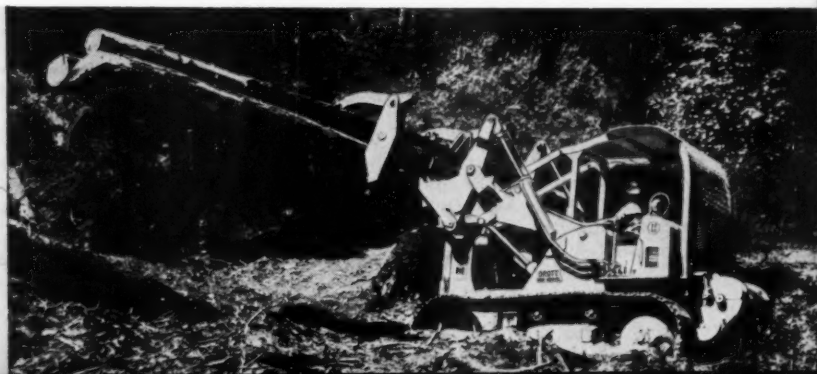
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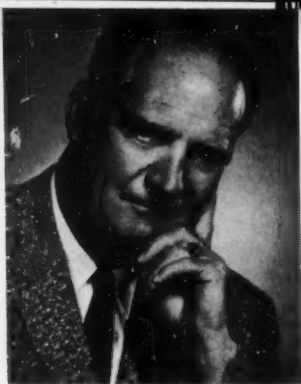
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Mr. Fischer gave this talk before the San Joaquin Valley Council

# CONSERVATION:

## What Definition Do You Use?

By VIRLIS L. FISCHER

SINCE my speech is entitled, "Conservation—What Definition Do You Use?" perhaps it would be desirable to explain what definition I use. I think a simple definition and one that most people can accept is, "Conservation is the wise use of our natural resources." I think we can all agree, too, that sometimes preservation in parks and wilderness areas is the wisest use. But beyond that, people begin to differ on what constitutes wise use—particularly between those directly involved in the utilization and management of renewable natural resources and those who are not so involved, yet want the same land for wilderness use. These two groups are not equal in training or professional background in the field of resource management, and hence, in addition to competing for the land, there is often much misunderstanding.

At the time of the establishment of the U. S. Forest Service, its function was largely that of a custodial agent. The development of the nation has seen a rather rapid change from custodianship to a multiple use management plan aimed at providing a continuous flow of products and services for the public benefit in perpetuity. The benefits of this plan are obvious to almost everyone. Certain lands of a high scenic value or remoteness have been set aside in wild and wilderness areas in which there is no commercial development. In between the wilderness areas and the lands which have come under active development and management, there still remains a bloc of these custodial lands whose final management disposition has not yet been made. We shall call this a cake—your cake and mine.

Normally, part of this cake would be set aside as additional wilderness and recreation area, part as just ordinary forest land, depending upon its predominant values. The conflict over this cake, however, is simple—one group wants it all. This is

known as maintaining the status quo. The status quo is the sacred cow. It matters not the exploding population, or the need for timber and forest products, or for insect and disease control, or for water and power developments, or that the facilities for mass forest recreation in some areas are seriously overtaxed; roads have gone so far and they shall go no further. That is the status quo, and that is where the battle line forms. Policy is based on holding this line.

Of course, resource managers quite understandably shudder at the prospect of building a Chinese wall around the status quo. And I will have to admit there is much to be learned from the professional resource manager. With the population increase expected in the immediate future and a standard of living continuing to spiral upward requiring more lumber, more houses, more plywood, more paper, more paper products, water power, forage, and minerals, the resource manager can only foresee an intensified use per acre to which will also be added an outdoor recreation burden increasing at an even faster pace.

In addition, there is another facet to consider which I can explain best

by taking you to the Northwest. In Oregon and Washington, where most of the nation's sawtimber is situated, 40 per cent of the people earn their livelihood directly or indirectly from lumbering. There is still a supply of old growth timber which has not yet been converted to a managed forest, and there is a reason for this. If it were all cut at once it would create a feast and famine situation and is therefore being spaced out under a program of careful planning until the time when the managed forests of tomorrow will be old enough and extensive enough to supply the nation's needs without dislocation.

Many in the Pacific Northwest (and this includes me) realize that these are commercial forests whose being set aside just to look at cannot be justified; they are long accustomed to patch cutting of Douglasfir as a sound system of plant rotation. We do not put any faith in the propaganda that the chemical industry will invent so many substitutes for wood that trees will no longer be necessary. Actually, much of the land in the Pacific Northwest isn't much good for anything else besides growing trees, and foresters are even proud of that fact. Consequently, I think it quite safe to predict that the lumber industry is here to stay and that through research it will instead be utilizing chemicals to produce new products and uses for wood. . . .

I know the Forest Service in and out through long association as a recreationist, and consider it to be a great conservation agency with an outstanding record of sound land management in the public interest. I know it to be an organization of unquestioned integrity. Further, I have yet to know a forester who doesn't have a love for the outdoors, and I have found nothing wrong with Forest Service recreational de-

(Turn to page 40)

### About The Author

Mr. Fischer is a long-time member of the Mazama Conservation Committee, has served as chairman, and is a past president of this famed mountaineering club of Portland, Oregon. He is also a member of the Sierra Club and former member of its Pacific Northwest Chapter Executive Committee, and is affiliated with the Federation of Western Outdoor Clubs (former Conservation Committee Chairman), National Audubon Society, Oregon Audubon Society, National Parks Association, Wilderness Society, Izaak Walton League, and The American Forestry Association. He was recently appointed to the Western Land Use Committee of the Western Forestry and Conservation Association, and is an occasional contributor to AMERICAN FORESTS magazine and other conservation publications.



# Washington



# Lookout

By ALBERT G. HALL

**FOREST SERVICE APPROPRIATIONS** were finally given a \$4.8 million boost above the budget request by action of the Senate-House conferees. Originally the House had reduced the budget request by paring \$250,000 from the \$1 million requested for acquisition of lands in the Superior National Forest. The House also reduced the request for forest recreation by \$1 million, but distributed the amount by additions to other items in national forest protection and management. Then the Senate added \$19,799,500 to the House allowance, principally for national forest management and research, but including \$1,250,000 additional for co-operative programs in state and private forestry. The compromise figures are compared with the budget request in the tabulation on page 50. In all cases, except for the state and private forestry items, some of the Senate increases were applied, the \$5 million being distributed proportionately among the stated needs of the department for the advancement of the long-range program for the national forests.

## **THE CONSERVATION RESERVE OF THE SOIL BANK**

Program under which agricultural land is retired from crop production and placed in tree or grass cover, will continue in 1961. The House has approved \$310,000,000 for the program, and it is expected that the Senate will do likewise. In approving the continuation of the conservation reserve, the House Committee on Agriculture expressed skepticism as to the effectiveness of this approach to reducing crop surpluses. Representative Whitten of Mississippi, chairman of the agricultural subcommittee of the Appropriations Committee said that 2.6 million farms are classified as "small," and that these farms, comprising 275 million acres, produce only nine per cent of the commercial farm products. "Therefore, if all such

farms were removed from production at an average of \$10 per acre, it would cost \$2,750,000 a year and would reduce production only nine per cent—assuming large farms did not offset such reduction."

## **WILDERNESS PRESERVATION LEGISLATION**

is expected to be developed and reported by the Senate Committee on Interior and Insular Affairs before the end of the current Congress. The committee is attempting to produce a compromise bill from the many amendments that have been suggested. Principal and most troublesome amendment is the revised S. 1123, offered by Senators O'Mahoney of Wyoming and Allott of Colorado, as a substitute to the bill of the same number introduced by Senator Humphrey of Minnesota, and others. The substitute measure would give Congressional approval to all wilderness areas now in the national forest system, but would subject additions to the wilderness category to scrutiny by the various federal agencies concerned with the economic development of the public lands. If a reasonable compromise can be developed by the Senate Committee, its chances of enactment are still very slim. It will provide, however, a basis for resuming action toward wilderness preservation by the 87th Congress.

## **MULTIPLE USE AND SUSTAINED YIELD CONCEPTS**

of management for the national forests are expected to be given Congressional approval during this Congress. Both the House and Senate committees on Agriculture have approved an amended bill, which specifies that the proposed directive to the Secretary of Agriculture is "supplementary to, and not in derogation of," the basic act establishing national forests. This amendment, apparently, has removed much, if not all, of the opposition measure.

(Continued on page 50)



# Editorial

## Multiple Use Is Here To Stay

Multiple use comprises the very warp and woof of AFA's Program for American Forestry. The association has consistently supported this concept of management as applied to national forest lands. It continues to do so now. No one has worked harder for early enactment of the so-called "multiple use-sustained yield" bill than AFA Chief Forester Kenneth B. Pomeroy. This bill placing outdoor recreation, range, timber, watershed, and wildlife and fish management on the same administrative plateau has now cleared both Senate and House committees and stands on the threshold of enactment. The bill has overwhelming support, and notable has been the support recently voiced by the lumber industry which had originally entertained some doubts about the measure. Equally noteworthy has been efforts in behalf of the bill on the part of Dr. Ira Gabrielson, president of the Wildlife Management Institute, and other old line conservation organizations. When these groups, and particularly the Institute, put their shoulders to the wheel it represents concerted effort by millions of American sportsmen and conservationists.

This bill first put in its appearance several years ago—as a matter of fact, about a year before the initial introduction of the Wilderness Bill. It made no great stir. Later, the Forest Service incorporated the gist of the bill in the amended Wilderness Bill and then suggested that AFA should now support this bill, since it contained principles to which the association subscribed. This the association did not choose to do, since it believes the Wilderness Bill should be shelved at least until after the Outdoor Recreation Resources Review Commission presents its findings. At the same time, elder statesmen in forestry assured AFA that holding off on this bill would work no great hardship on the Forest Service, as it was fully qualified to practice multiple use under the Secretary's regulations.

That this is true was borne out by statements by Chief McArdle at the recent hearing on the new bill. McArdle said that the measure should not be interpreted to mean that the Forest Service does not have full authority to practice both multiple use and sustained yield. However, some new elements have now been added which point up a real need for this bill. Chief McArdle believes that all the uses of these lands should be named and clearly defined in a single statute—a move that would facilitate implementation of the new Program for the National Forests.

We agree but there is more to it than that. Recently the validity of multiple use as a concept of management has been publicly challenged by another bureau of government. As Mr. Fischer explains on page 6, there also appears to be a well-organized campaign afoot to discredit multiple use and—get this—"to make forestry prosaic." Mr. Fischer also fully agrees with Assistant Secretary of Agriculture Peterson, who some months ago declared that the national forests are up for grabs so far as many outdoor recreation groups are concerned. Originally, we were inclined to take these statements with a grain of salt. Now we're not so sure.

Foresters, who are presenting a united front on this particular bill, see any attempt to discredit multiple use as a blow to the prestige of forestry as a profession. Need-

less to say, it is also an effort to undermine the validity of AFA's Program for Forestry.

We don't think any such campaign will get very far, for the public will recognize it for what it is—a selfish and capricious effort by decidedly self-centered and single-minded groups. Multiple use as a concept of management may have some shortcomings, but it is definitely here to stay. So are the national forests. And so is forestry.

As has been decisively indicated in recent weeks, multiple use has many friends in our country. One way Americans can show their convictions in a concrete way is to make known to their elected representatives that they fully support the national forests, forestry, and the multiple use management concept. The multiple use-sustained yield bill should be enacted before Congress goes home to campaign.

## The "Three R's" of Renewable Resources

At the invitation of the Democratic National Committee, AFA Executive Vice President Fred E. Hornaday went to Denver recently to make recommendations for the resources plank to be adopted in the party's platform. While AFA is a "non-political" it is at the same time a citizens' organization with strong views on resource management; in the past it has presented those views to both major parties in the drafting of platforms and bills.

In Denver, Mr. Hornaday presented AFA's Program for American Forestry chapter and verse, with strong emphasis on the three big goals for forestry, namely: 1) to meet the essentials of forest protection, 2) to improve the national timber crop in volume and quality, and 3) to obtain the maximum of economic and social services from our forests by realistic application of the principles of multiple use.

Then Mr. Hornaday went one step further in urging greatly stepped-up emphasis on what he called the "Three R's" of renewable resources, namely "research, recreation, and review of the nation's changing landownership pattern." The importance of stressing research in all categories of activity at this particular time is self-evident, he said. Equally self-evident is the fact that greater recreational opportunities must be provided if people are to remain physically and morally sound. Finally, in view of the tremendous pressures on land today, he said that both major parties have a great responsibility and duty to safeguard the rights of individual property owners who comprise one of the great bulwarks of our republic. Three landownership studies in California, Minnesota, and North Carolina are showing how this can be done most effectively, he said.

AFA members will be glad to hear that these recommendations, and particularly the emphasis on the "Three R's," were given careful attention at the Denver meeting. The fact that a program for forestry written almost a decade ago is as sound today as it was then was also noted by a number of observers. As the late Dr. Schenck said almost a decade ago, AFA's Program for Forestry "is one of the most remarkable documents ever compiled by the citizens of a free country." We don't like to brag, of course, but maybe Dr. Schenck was right.



# Editorial — SILVER ANNIVERSARY for SCS

The press in recent weeks has bestowed hearty and deserved accolades on the Soil Conservation Service on the occasion of its Silver Anniversary. These tributes from the heart of America remind us that in the short span of 25 years the SCS and its loyal ally, the citizen-inspired and managed Soil Conservation Districts, have placed their stamp on farm and ranch lands as have no other groups in history.

The statistics of accomplishment are truly impressive. By July 1, 1959, more than 1,279,600 farmers and ranchers, in co-operation with the Soil Conservation Districts and with the technical assistance of the SCS, had prepared whole-farm conservation plans and were carrying them out in progressive stages. Twenty-one states today are completely covered by soil conservation districts and many others are almost covered. In all, there are now 2,861 soil conservation districts and they embrace about 90 per cent of the land in farms and 95 per cent of all the farms and ranches of the United States.

Impressive as these statistics are, this progress is a case of "seeing is believing" with most of us, and to see it one need only travel across the country in an airplane. To see soil and water being held on the land in the form of terraced hillsides, gracefully contoured croplands, rows of multiflora hedges, and farm ponds sparkling like jewels in the sunlight, is one of the most inspiring sights in this land. It is pleasant to think that hundreds of foresters arriving in this country in August from all over the world will see some of these

developments on their flights to the World Forestry Congress at Seattle.

One thing the public hasn't fully realized yet is the way this soil and water-holding program has gripped the imagination of the whole world. The cheers for this program on its Silver Anniversary didn't stop at America's borders by any means. For instance, the April 30 issue of the distinguished London *Economist* found that periodical publishing a tribute to "one of those New Deal programs which have knit themselves into the permanent fabric of American government and life." As described by the *Economist*, the way farmers were persuaded to develop their soil instead of mining it is a story with all the earmarks of a major miracle.

And it is something of a miracle. How so few could do so much in so short a time is a tribute to the American spirit at its best, and it has been duplicated only on one other occasion in the history of governmental agricultural programs. As the *Economist* also notes, much remains to be done: there is still too much duplication and working at cross purposes, and new problems keep cropping up all the time, especially in water management efforts. But this is not the time to go into that. This is the time to say "well done" for a story of accomplishment already written on the land and to express the hope that future years will see our growing army of technicians carrying on the spirit of true co-operation that characterized the first 25 years of an agency which has won a warm spot in the heart of millions of Americans.

**These fields are in fine shape after heavy rainstorm as a result of contour strip cropping, an SCS practice to prevent erosion**





# From "DUST BOWL" to "TREE BOWL"

By ELMER L. WORTHINGTON

Woodland Conservationist, Soil Conservation Service



Hay-rake tree cultivator used on single row windbreak of green ash and caragana

Aerial view of pattern-type field windbreaks at Lyleton, Manitoba



A single row farmstead windbreak of caragana shows effectiveness in holding snow



OF ALL the states in the union, North Dakota has the smallest number of acres of native woodland. However, the people of the state have gone a long way toward correcting this situation in converting what was formerly a "dust bowl" into a "tree bowl." North Dakota now leads the union in the planting of trees for windbreak purposes.

North Dakota is blessed with long winters and short summers. The settlers soon found out that protection from winter winds and drifting snow was needed around the homestead headquarters. They also found out that some protection was needed in the summer from hot, dry winds. Few farm and ranch headquarters are now without some trees for the protection of the farm family, livestock, and the wildlife that is abundantly present in most areas.

A survey by the author three years ago showed that most farms have some trees around the buildings on both the north and west sides. However, only one farmstead out of five had an adequate windbreak on both the north and the west. For a windbreak to be classed as adequate, it has to contain at least five rows of trees and shrubs of sufficient density to prevent drifting snow from entering the farmstead; it also has to be of sufficient height to give adequate wind protection to the farm buildings. Five out of six farmsteads had enough trees to give some windbreak protection. Prevailing winter winds come from the northwest, and these winds are the ones that give the most severe blizzard conditions. It was natural then that protection be in the form of windbreaks on the north and west sides of the farmstead area.

It is estimated that 95 per cent of the farmsteads have soil that is suitable for tree growth. The remaining five per cent are located on

soils unsuitable for adequate tree growth because of harmful salts, excess gravel, or impervious hard pan. Records show that about 1,000 new windbreaks are planted on North Dakota farmsteads each year. At the present rate of planting, it will be several years before all of the farm and ranch headquarters will have adequate windbreaks for their protection.

In addition to the farmstead wind-

breaks, thousands of farm and ranch owners are planting field windbreaks and wildlife plantings each year in carrying out their soil and water conservation plans. In 1959, 11,993 acres were planted by 4,336 individual farmers and ranchers using 9,708,000 trees and shrubs. They were planted in farmstead windbreaks, field windbreaks, and wildlife plantings. Of these, 2,851 miles were field windbreaks, compared to a total of

1200 miles established in 1958 and only 437 miles in 1950.

Farmstead and wildlife plantings differ in design from the field windbreaks. The main difference is that the former consist of several rows in width and contain a few rows of shrubs on both the windward and leeward sides. This traps the drifting snow within the belt itself, and thus keeps the area to the leeward free of drifts. Field windbreaks, however, are so designed that they will tend to spread most of the snow on the cropland adjacent to them rather than in the windbreak itself.

The average farmstead and feedlot windbreak should have from five to 12 rows of trees and shrubs. At least two of the rows should be conifers. An average wildlife planting should have about 20 rows of trees and shrubs. Field windbreaks, however, do not need to be wide. The majority of them are only one row in width.

Field windbreaks are planted for several good reasons. First, and perhaps most important, is the protection of cropland from wind erosion. Secondly, and in many areas equally important, is the control of drifting snow on the cropland adjacent to the windbreaks. Other uses for windbreaks on cropland are to protect crops from hot, dry winds, to provide wildlife food and cover, to give watershed benefits, and for esthetic values.

A belt of one or more rows of trees of the proper species or combination of species will protect most bare soils on the leeward side from 10 to 20 times the height of the tallest trees with some benefits up to 40 times the height of the trees. Beyond this point the windbreak has little or no effect in a soil erosion or snow-holding capacity. Where a series of windbreaks are planted on a given area, the term "pattern type" is used to describe such plantings.

Wind tunnel studies, using model windbreaks, have been conducted to measure wind velocity reductions with various width belts. Other studies have dealt with wind erodibility of various kinds of soils. Some field research has also been conducted in pattern-type windbreaks, notably in Canada, and the results have been quite similar to the wind tunnel studies. Other appropriate conservation practices such as contour farming, wind strip cropping, stubble mulch tillage, and long-time grass rotation, should be used in conjunction with the pattern type windbreak. This is most important



This field windbreak in Bottineau County, N. D., is a one row combination of ash, box elder, and caragana. Trees, which were planted in 1940, are now thirty feet high

Farmstead has complete "new look" tree planting system. Wide belts of trees are on three sides while fourth is planted to shrubs, preventing snow from blowing into yard



during the period before the belts reach effective height and density.

There are several good reasons for using single rather than multiple-row windbreaks. Some of these are: 1) The single row windbreaks take less land out of cultivation. 2) They are easier to care for after establishment. In the Great Plains, trees must be cultivated and kept free of weeds and grasses for best results. 3) Trees appear to have more vigor

in a single row planting than in multiple row windbreaks. 4) Fewer trees are needed to protect the same amount of cropland. 5) The single row plantings improve wildlife protection over a larger area. A series of narrow windbreaks on the north and west sides of existing tree belts or native clumps keeps large snow drifts from forming. These additional plantings will trap much of the drifting snow before it hits the

existing trees. This gives game birds drift-free areas in which to ride out the storm safely. 6) They permit better distribution of snow over the field.

In the plains, good land preparation must precede the planting. Clean summer fallow the year before planting is more desirable, except on the highly erodible soils where a row crop or clean grain stub-

*(Turn to page 46)*

"Let's Move Ahead! . . ."

## Watershed Congress

**I**n a month highlighted by celebration of the silver anniversary of the Soil Conservation Service, a conservation message in the form of a commemorative Water Conservation Stamp on April 18 was sent winging on its way into homes and offices across the country.

Scene of the official unveiling of the new stamp was the Seventh National Watershed Congress, where delegates saw artist Elmo White's design flashed onto a large screen as the U. S. Navy Band-Orchestra and the "Sea Chanters" provided appropriate background music. The stamp was introduced by Postmaster General Arthur E. Summerfield, who

said 120 million copies of the stamp have been issued.

As described by Postmaster General Summerfield, the stamp consists of two panels. The first portrays a drop of water falling from a leaf, symbolizing watershed influences on water supply. The second depicts a panorama of watershed management and its vital relationship to water use by homes, industries, and farms.

Assisting Mr. Summerfield in the stamp ceremony were representatives of four other key government agencies. These were: Fred A. Seaton, Secretary of the Interior; True D. Morse, Under-Secretary of Agriculture; Robert H. Forsythe, Assistant

Secretary of Health, Education, and Welfare; and Dewey Short, Assistant Secretary of Defense. Special stamp albums were presented to these five officials and to Dr. Hugh H. Bennett, the first chief of the Soil Conservation Service. Other albums went to representatives of participating youth groups—the Boy Scouts of America, Girl Scouts of America, the Campfire Girls, the Future Farmers of America, and the 4-H Clubs of America. The invocation was offered by the Reverend Frederick Brown Harris, Chaplain of the United States Senate.

Members of the Stamp Advisory Committee to the Postmaster Gen-

Cabinet officers, heads of government agencies, conservationists, and representatives of five national youth organizations, whose spokesman was Dean Hoffer of FFA, third from right in front row, attended Water Conservation Stamp ceremony







Stamp albums were presented by Mr. Summerfield to the representatives of five youth organizations. At right, Helen Crozier and Roger Starkweather of 4-H Clubs



Campfire Girl Katherine Wadsworth was youngest representative present

eral, prominent legislators, and leading conservationists were guests of the Congress at a special Watershed Congress Luncheon following the dedication, at which Donald A. Williams, administrator of the Soil Conservation Service, made the keynote address on the topic "Water Conservation." Mr. Williams said:

- "Water conservation means managing the water available to us at any time or in any place to provide for maximum benefits from its use including enjoyment of its recreational and esthetic values, control of its destructive energy, and equitable distribution for legitimate needs.

- "Water management begins with land management, and this is a fundamental truth rooted in the nature of the hydrologic cycle itself. Our water supply comes to us as precipitation falling on the wide expanse of the land. The first arbiters of our water supply, therefore, are the farmers and ranchers, and the public administrators and users who decide the kind of crops, the degree of grazing, the forestry policies, and the conservation and water control practices that prevail on the country's watersheds.

- "People everywhere need to know more about our water resource; where water comes from, who it belongs to, and the opportunities for its management and use. The current study by the Senate Select Committee on National Water Resources is making an important contribution to that understanding. The National Watershed Congress is another valuable means to that end.

- "Vigorous and positive action for water conservation needs to move in step with our national program of soil conservation. Some principles to guide us in establishing policies include: The first use of water on the land is to support the biological function of the soil and make possible the use of land within its capacity. Every water user — agricultural or urban — has an obligation to return as much water as possible to the common supply with the least impairment of quality. Property rights in water must be respected, and the states not only are responsible for determining those rights but have an obligation to adapt their water laws and the administration of them to modern requirements. Watersheds are the natural manage-

ment units of the water resource, and watershed projects should give full consideration to future needs and multiple uses of water.

- "These principles can be effectively carried out within the concepts of our American democracy through private initiative and the aggressive co-operation of local, state, and federal governments."

Ervin L. Peterson, Assistant Secretary of Agriculture, was named 1960 Watershed Man of the Year by the Congress for his effective work within the executive branch of the government to improve the administration and co-ordination of the national watershed program. The selection was a popular one, judging from comments received since from water conservation groups in many states.

The Six-Mile Creek Watershed in Logan and Franklin counties of Arkansas was named 1960 Watershed of the Year, but it was a nip and tuck decision with the Upper West Fork of Cypress Bayou Watershed in Bossier Parish, Louisiana, and the Little Delaware-Mission Creek Watershed in Brown County, Kansas receiving heavy support. Seventeen other entries also made





Scout Bob Perryman, Troop 56, holding a book of the Pilgrims, Washington



Marianne Milstead of Troop 185 in Arlington, Va., represented Girl Scouts



Keynote address on water was made by Donald A. Williams, Administrator, SCS



Under Secretary of Agriculture True D. Morse (center) was on hand to receive album from Mr. Summerfield. At left is Congress Chairman Gutermuth

Jack Corley and Clyde Hiatt (left) of the Six-Mile Creek Watershed in Arkansas, receive Watershed of the Year Award from Chairman Gordon Zimmerman



this year's competition the toughest to date.

What is the thinking of people out on the land on the progress of the small watersheds program? While both sponsors of the Congress and technicians are in full accord with the program's philosophy of having projects initiated and paid for in part by local people, the belief was expressed by many delegates that the government should speed up on the approval of projects and in providing more money.

Right now, 61 per cent of all applications have not been approved, and at the present rate this ratio will increase to 64 per cent by next year. Approximately \$20 million will be available to service projects this year, whereas \$100 million is actually needed if interest is to be maintained and momentum continued, delegates reported.

"What's the lag?" these delegates asked. "Why aren't we moving ahead more rapidly? How are we going to keep interest at a high level if applications stand still? Should we start soft-pedaling the prospect of having applications approved unless the Department of Agriculture shows more initiative?"



**"Watershed Man of the Year," Ervin L. Peterson, Assistant Secretary of Agriculture (left), and Gordon Zimmerman, Exec. Sec. of NASCD**



**The famous "Sea Chanters" featured by the U.S. Navy Band-Orchestra provided background-music for introduction of the Watershed Stamp**



**Interior Secretary F. A. Seaton receives stamp album from Mr. Summerfield**

L. L. Males, Cheyenne, Oklahoma agriculturalist and banker, received warm vocal support from delegates from Nebraska, Kansas, and Oklahoma when he warned the Congress, "We're thinking too small on this program. We've never had a decent budget—and right now it is practically the same as in the beginning. Instead of going ahead, we have thrown on the brakes . . . this program should be an accumulative sort of thing. The more you do, the more enthusiasm you generate. Are we serving our people as we should, or are we merely being content to sit on the seat of our pants? . . . I say it is good, sound economy to move ahead on the projects, to treat these rampaging creeks. I have seen these creeks on the rampage and I know what they do to the economies of whole areas. That's why I say there is a real danger in stockpiling these plans and merely approving them in dribblets. Let's move ahead!"

These calls from the grass roots for an accelerated federal effort for small watersheds collided to some extent with the thinking of Budget Director Maurice H. Stans. On the pessimistic side, Stans sees a federal mortgage of almost \$750 billion that will have to be paid unless the brakes can be clamped down on built-in increases pushing up expenditures year after year.

Stans reminded his audience that the federal budget for any given year represents only part of the iceberg—the part that is visible. Much more is on the cuff in the form of C.O.D.'s that have to be paid in years to

come, such as \$30 billion to complete the interstate highway system, \$5.5 billion in the future for public housing, and other costs — all of which means that even if this session of Congress doesn't add any new programs or increases to the budget, the level of federal spending is still going up.

Consequently, \$290 billion of current public debt, plus over \$350 billion of future obligations for past services, plus \$98 billion for C.O.D.'s, adds up "to the almost unbelievable total of nearly \$750 billion," Stans said. On the pessimistic side, more built-in increases, plus mounting pressures to have the federal government take over more and more of local government's problems, can easily mean that "unless we pick our way very carefully among these pressures" we can soon have 80 or 100 or 150 billion dollar budgets, higher taxes or bigger deficits, debasement of our money, and weakening of our economy, he added.

On the optimistic side, the Budget Director saw both long-range and short-range hope. The real possibility, of course, for reducing high spending lies in what happens in the world. If international tensions

can be lessened, (which doesn't seem likely at the moment), it may not be necessary to spend 54 cents out of every tax dollar on national security.

"Beyond this, as we look ahead to 1970, we can expect the continued normal growth of our economy," Stans said. "I do not refer to a frantic and speculative economic speed-up, or forced economic growth by government decree, for the sake of entering a statistical race to 'keep up with the Khrushchevs.' I am talking about the regular annual increments of growth, which, sometime this year, will push our gross national product past the half-trillion dollar mark, and which by 1970 should raise it close to \$750 billion. That kind of economic growth means more wealth, more income, greater vitality throughout the economic system."

Where does this leave the small watershed program in terms of more money for next year? Mr. Stans suggested the following sequence of primary responsibilities: first, for national defense; next, "for a strong economy and sound currency— which means balanced budgets, a continuing fight against inflation, a

realization that no benefits can be provided from Washington that are not paid for in taxes"; and finally, for continuing efforts "to make the most effective use of our resources available for domestic purposes . . . to build on our local, state-federal relationships in seeking our goals.

"This is a time to conserve and to develop all of our resources, economic, natural and cultural," Mr. Stans concluded.

There was more reaction, both pro and con, to Mr. Stans' address than to any other made at the conference. Since he brought a personal greeting from President Eisenhower to the Congress, delegates concluded his talk was "official." Most of them also concluded that the whole watershed program will jog along at the present rate and that no accelerated efforts can be anticipated. Some accepted this point of view as sound and necessary. Others did not.

At a meeting with Agriculture Department leaders, some questions were raised as to whether projects on national forests were being pushed sufficiently. Department people explained that watershed programs on the forest must be spon-

(Turn to page 60)

# PLEASURE AND PROFIT

By LESTER FOX

HENRY U. Webster has been managing his 15-acre farm woodland on a conservation basis for more than a quarter of a century. He finds the task pleasant, satisfying, and profitable. "The woodland work fits nicely into our poultry business," Mr. Webster said. The "our" included his son Ralph. The two of them own and operate a 127-acre chicken farm in Cayuga County near Auburn, N. Y. They rent 25 acres more.

Detailed records for the 25 years through 1957 show a net woodland income of \$5,868.88 or \$15.65 per acre per year.

"The experience of the Websters,

like that of many other farmers, shows that if you had enough acreage you could make a tidy income from a conservation-managed woodland," said Arthur C. McIntyre, retired Soil Conservation Service woodland specialist for the Northeast. "It shows too that even with a small woodland acreage you can pick up \$200 or \$300 extra each year at a time when other farm work is slack. You can buy a lot of useful things with \$200 or \$300: farm equipment, washing machine, refrigerator, overcoats for the family, a rug, new bathroom fixtures, or many other things. On a capital basis, say the land is valued at \$100 an acre,

the Webster woodland income is four or five times as much as you'd get from the same investment in safe stocks or bonds."

The cost accounting record for the 25 years was:

Logs and lumber—26.2 Mbm	\$1,213.53
Firewood—1435.5 ft. cds.	5,780.87
Total income	\$6,994.40
Team, tractor, power saw, buzz rig.	\$ 625.52
Taxes	500.00
Total expenses	\$1,125.52
Net to capital and owner	\$5,868.88
(Total income minus total expenses)	
Net income per year	\$234.75
Websters' time	4,130 hours
Income per hour	\$1.42





"The hourly rate of return might not look so good if you compare it with the pay scale in American industry," Henry Webster said. "But there are other factors to consider. The woodland work comes in December, January, and February. That's a time when we would be otherwise idle. We usually work a couple of hours in the morning and another couple in the afternoon. We wouldn't be doing anything else of profit at that time of year.

"We do the work ourselves, my son and I. And it gives us a great deal of inner satisfaction to work in a woodland and realize that we're doing something to conserve this wonderful resource. We have been getting something out of the woodland for ourselves, and at the same time we have been improving it so that it can produce more for others in the future. That thought makes you feel very good."

Accurate records kept down the years show that in the 1932-33 season the stand was composed of 3,155 trees having a diameter of six inches or more. In 1954-56 the number was 2,460 trees. The volume in 1932-33 was 144,004 board feet; in 1954-56 it was 133,064. Foresters consider this excellent progress and improvement. During the period cull trees have been removed to give the commercially valuable trees a better chance to grow. Thinning and pruning have also helped to improve the stand. At the same time, the Websters have harvested merchantable trees ready for market. Yet the volume is only a little less than it was in 1932, and it is of a higher grade.

The Websters said they have received thousands of dollars more from their woodland than if they had clean-cut it 25 years ago. "On top of that, we have a much better stand now than we had then," Ralph emphasized, and added, "The work we have done will pay off better in the years to come. An hour put in now will not take more than a fraction of the time to produce the same results later. In years to come there will be a solid stand of good trees."

Ralph's statement was borne out by the income figures for 1959. Net income was \$225 for 90 hours of

**A neglected tree in a neglected farm woodland in the same area as the profitable Webster woodland. Both woodlands have same soil and topography**



work. That was \$2.50 an hour. The average for the 25 years from 1932 to 1957 was \$1.42 an hour. Since only a five-acre plot is cut each year, the 1959 net was \$45 an acre. The harvest was limited to the smallest to date: 5.5 standard cords and 1,000 board feet of lumber.

Henry Webster doesn't think it's fair to charge taxes against the woodland income. "I'd be paying them anyway," he reasons. Foresters, however, feel that all charges must be reckoned in order to come up with a realistic income figure.

The late Professor Joshua Cope, Cornell University extension forester, persuaded Henry Webster in 1932 to start the conservation management of his woodland. Mr. Webster and his son have carried out the management plan faithfully. Since the beginning, an extension forester and a county agricultural agent have kept detailed records on growth, volume, production, costs, and hours of work. The forester marks the marketable and cull trees for cutting.

Many forestry students visit the Webster woodland for study and observation. They have a good chance to see the difference between a conservation-managed woodland and an unmanaged woodland. In the same general locality is a neglected woodland having the same Cazenovia silt loam and Farmington loam soils as the Webster place. The two sites also have the same topography.

The unmanaged woodland site is covered with fallen, rotting trees. Competing inferior trees have stunted the growth of the commercially valuable species. The good trees have suffered from lack of pruning and thinning. Poor stock predominates.

The Websters use most of their woodland products on the farm. The lumber goes into new brooder houses, floors in the farm buildings, and general repairs. They build their own feed bins. They use some of the firewood in their brooder houses, sell the rest.

In their poultry business, the Websters hatch 100,000 chickens a year. They ship the baby chicks mostly to central New York, but they sell also to more distant markets. For half a year they sell eggs to the local market. The other half-year they incubate the eggs. They also sell meat chickens to local stores.

To feed their 6,500 Rhode Island Reds, the Websters grow 30 acres of wheat, 37 acres of oats, 45 acres of

corn, and four acres of alfalfa hay. All of this rolling acreage is under a soil and water conservation plan. They are co-operators with the Cayuga County Soil Conservation District. As such, they received technical help from the Soil Conservation Service in planning and applying their conservation program. Ralph Webster has been on the district's board of directors since 1947. He has been district treasurer for 10 years.

All the farm is in contour strips. The Websters plant their corn, oats, and wheat in a one-year rotation plan. In addition, they seed clover with the wheat. When it's mature, they turn the clover into the soil as green manure. While it's growing, it protects the soil against erosion;

as green manure it adds organic matter to the soil.

Open and tile drains keep excess water off the land. Cover crops protect the soil at a time when the land would otherwise be bare. The steep slopes are kept covered the year around. Even a four-acre poultry range is part of the conservation plan. Under a four-year rotation pattern, it is kept in sod one year and planted to corn, wheat, and oats in turn the other three years.

"Those of us who own farm land must always think of the future," Henry Webster said. "It's up to us to conserve and improve our land resources for the benefit of the coming generations. As we do that, we ourselves can enjoy a much fuller and more satisfying life."



Henry U. Webster makes a note of marketable trees in his well-managed tree farm. He has provided adequate space for future growth



Actual work in forest management techniques is considered an integral part of the Maine School of Forestry curriculum



Forestry School Director A. D. Nutting



Forestry Commissioner A. H. Wilkins

## MAINE

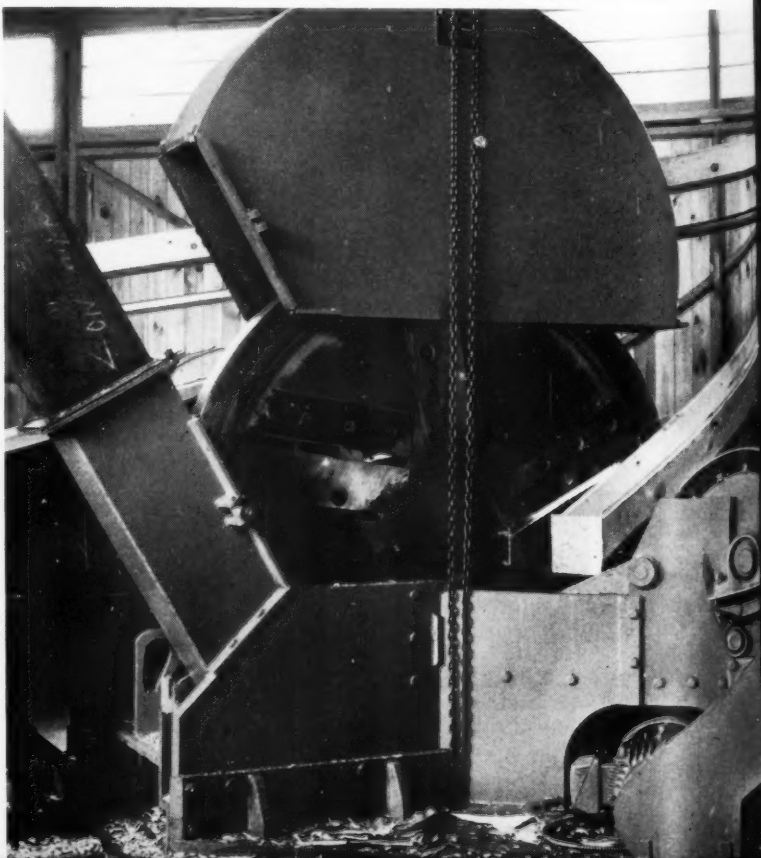
# LOOKS TO THE FUTURE

Horse power is sometimes used to move wood through young timber stands since mechanized equipment may damage trees



By J. R. CRANE

Chipper machine used in Ossipee Lumber Company's plant. Chipper plant utilizes debarked pine slabs and edgings which were formerly considered waste material



**W**OOD products have been big business in Maine for more than 300 years. Today a combination of forces is working to keep it that way for the next three centuries. These agencies, the Maine Forest Service, the Maine Forestry District, the School of Forestry at the University of Maine, and the research departments of the state's pulp and paper companies, are all working to find ways and means to increase the take from the more than 16 million acres of woodland in Maine.

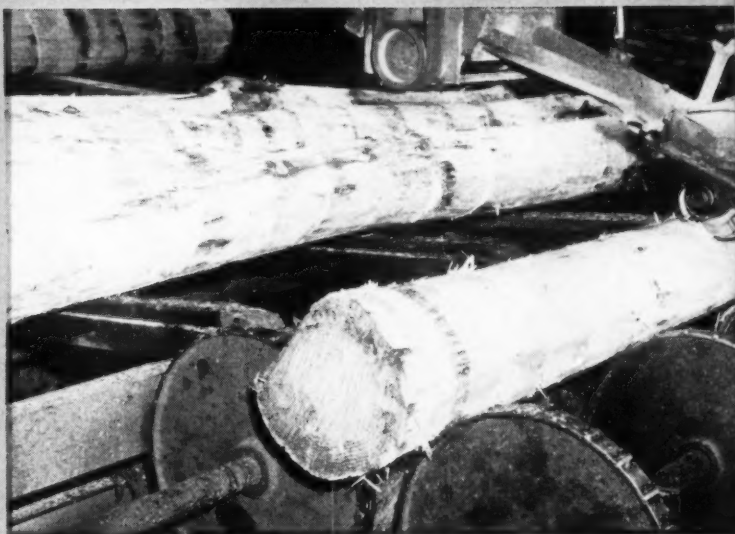
The Maine Forest Service is working on a long-range program that will increase the productivity of small, privately-owned woodlots. About one-third of the privately-owned timberland in Maine is held by owners of less than 500 acres of land.

The Maine Forestry District, which was founded about 50 years ago, was started as a fire prevention agency. It is divided into three divisions representing about 74 owners who have 5,000 or more acres of land. The Great Northern Paper Company with 2.5 million acres is the largest single timberland owner. Other large units are owned by International Paper Company, Pingree Timberlands, Scott Paper Company, Oxford Paper Company, the Brown Company, and several other pulp and paper units.

The areas protected by the Maine Forestry District are guarded by 77 patrolmen who use pickup trucks to carry equipment for any emergency they encounter. Part of their duty is the training of men in pulpwood camps in the latest fire fighting methods.

The forestry school at the University of Maine is under the direction of Albert D. Nutting, who was formerly Forest Commissioner of Maine. Students there get practical on-the-job training as well as textbook work. They learn the latest in forest care and management from books and lectures, but they learn to handle chain saws and other implements by actual practice. They have the opportunity to study and observe forest management and wood products manufacture within a few miles of the campus.

Perhaps the most significant project of the Maine Forestry School from the long-range viewpoint is found in the 17,000-acre experimental timber tract in the Indian reser-



Logs being processed by a timber debarker at a plant of the Isaacson Company

A digester discharging wood at the Great Northern Paper Company chemical plant







Indian Township is basically one huge experimental project, subdivided into smaller areas in which different thinning practices and new forestry methods are tried



University of Maine Forestry School students prepare for some on-the-ground practice in the manual labor side of forestry management at Indian Reservation Camp

vation in Princeton, Maine. Located in northeastern Washington County, a 630-acre demonstration section of this experimental tract may give the answer to the age-old question of how much timber should be cut and how much should be left to insure future timber harvests.

The project is set up as part of the course requirements of forestry and wildlife students. They are required to attend camp and do actual lumber work for eight weeks each summer. Teams of two students cruise approximately a square mile to determine the volume of timber

by species. The annual growth rate of fir and spruce is determined. Bulldozed roads are surveyed and mapped. The results of cutting are studied on cutover areas.

The project, known as the Robert I. Ashman Forestry Summer Camp, is under the direction of Professor Arthur G. Randall, who graduated from the Sheffield Scientific School of Yale in 1933 and from the Yale School of Forestry in 1934. He was a teacher at Colorado A. & M. and a ranger in the U. S. Forest Service before he came to Maine in 1946. His field of research is the improved

management of Maine woodlands with special emphasis on future production.

The main project of the summer school is to carry on a management program that will determine the sustained yield capacity and the most desirable level of growing stock to maintain, to test the feasibility of a 20-year cutting cycle, and to learn the results of the marking system upon reproduction, survival, and growth.

In order to test more varied methods of cutting, as well as to provide per acre figures, a square mile area has been set aside for a special experiment and demonstration. Here 10-acre blocks have been marked to various diameter limits, some on a tree selection basis. Each block is cruised for volume before and after cutting and is measured periodically for growth. Some may be cut as frequently as every five years, some every 20 or more years. Since 1952, 28 blocks have been marked and harvested by the Eastern Pulpwood Company, which is co-operating in the project. None of the experimental blocks have yet had a second cut.

Students who work on the project have to know all phases of a woodsman's life. After the cruising and mapping is completed, the job of analyzing the data collected begins. Approximately one week is allowed for this work. The data includes the construction of present and future stand tables, future volumes, graphs of height-diameter relationships, and local volume tables.

Throughout the summer camp program, several trips are made to the wood-using industries in Washington County. The first trip is usually made to the Saint Croix Paper Company Mill in a nearby woodland. During this trip students see all the steps used in converting wood to pulp, including a complete view of the groundwood and sulphite paper process, and a drum debarker in operation.

The essential objective of the summer camp experiment is to balance harvest and growth. Co-operators in the project agree that only time will tell whether this objective can be realized. But they feel that even if the results are negative the experiment will be worthwhile, since it will supply valuable data for managing forests for future timber crops.

Indian Township, where the experiment is being conducted, contains a high percentage of softwood, and it is managed under a selection

or uneven-aged system. The trees are marked for each cut on the basis of size, condition, and spacing. However, the sizes chosen are such that spruce will be harvested at approximately 80 years. Some trees of exceptionally good quality may be held to 100 years. Also some younger trees which are undesirable because of quality or spacing may be removed, provided they are at least six inches in diameter breast high.

Since a cut is made every 20 years, removing trees that are 60 to 80 years old, obviously only part of the stand can be removed in any one cut. Sufficient trees must be left, including trees above the minimum merchantable size of six inches, to insure another profitable cut in 20 years. Experiments on the Indian Township to date indicate that a growing stock of approximately nine cords of spruce, fir, and hemlock per acre is desirable with a 20-year cutting cycle. This is based on an average annual growth of 0.238 cords per acre in volume. Since the forest does not now average nine cords per acre in volume, it is necessary to build up growing stock by cutting less than the annual growth.

This growing stock figure may seem low compared to some areas,

but it should be remembered that the number of larger trees that make up most of the volume is limited; there must be many more small trees per acre than large trees. The lack of larger trees in Indian Township may be traced directly to the spruce budworm outbreak in 1918-20. Trees originating after that outbreak have not reached merchantable size for the most part, even though a period of 40 years has passed.

Dense growth is another prime cause of slow growth in Indian Township. In 1952 an acre having about 5,000 trees was thinned to 1,500 trees by hand-logging. Their average diameter was 1.43 inches. This operation helped the tree growth, but since it cost about \$80 per acre it would not be practicable to the average woodlot owner unless he had plenty of spare time.

The research departments of Maine pulp and paper companies have put their efforts to utilizing all the usable wood in the state's timberland. Perhaps the most significant development in this field came in the spring of 1952, when the management of the Great Northern Paper Company decided to build a \$325,000 mill at East Millinocket to produce pulp from hardwood by

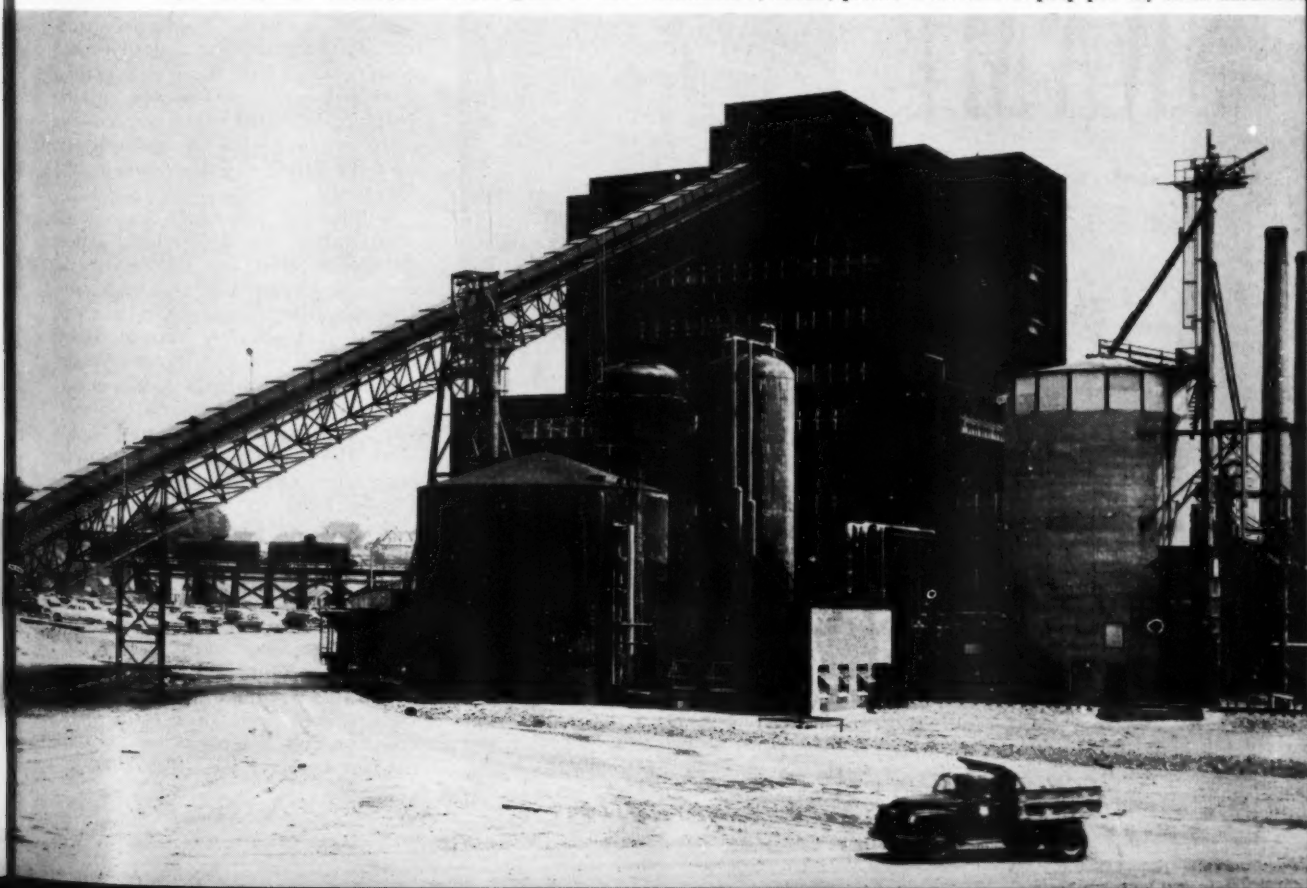
the chemi-groundwood process. The unit went into full-scale operation early in 1953 on a 50-ton per day schedule. Although the chemi-groundwood process had been thoroughly tested by the Great Northern laboratories after it was developed by Syracuse University, the East Millinocket project was the first time the process had been used on a commercial scale.

The Great Northern owns over two and a quarter million acres of timberland in Maine, and the new process gave the company a market for the millions of cords of beech, birch, and maple that are intermingled with the soft woods in the timber stands. The Millinocket site offered ample water power to develop the hydro-electric installations needed for the new mill. This project brought the Great Northern's installations to a rated capacity of 130,000 horsepower. As an ace in the hole it has undeveloped sites that will produce 60,000 more horsepower if it is needed for future expansion.

A more recent development in the utilization field came with the introduction of log barkers that pro-

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Great Northern Paper Company's chemi-groundwood plant at East Millinocket, Maine, produces 50 tons of pulp per day from hardwood



# CORK- SCREW SWAMP

Flock of storks perching on tree top



By NEAL ASHBY



◀ Moss-draped cypress trees surround the swamp's Lettuce Run

WHEN Collier County bought the new, three-lane, hard-top road leading up to the entrance of the Audubon Society's remarkable Corkscrew Swamp Sanctuary in a far corner of Florida, the project flashed the need for the society to swing into action. It was certain that the nation's largest remaining stand of towering baldcypress, oldest living trees in the eastern United States, would have more visitors than ever before, as would the nesting colonies of rare wood storks, the only storks native to our country, and the other wildlife prizes in the sanctuary.

While the sanctuary was closed temporarily last December, a new gatehouse went up, the boardwalk over the swamp was repaired, additional wardens and guides were assigned, staff quarters were improved and expanded, and lavatories for the public were installed. It was well that officials of the wildlife conservation society had the foresight, for since the reopening a few months ago—the new road eliminating the former need to trek through pastures and private land to reach the preserve—attendance has shot as high as 750 people in one week.

Career conservationists don't always welcome hordes of visitors to nature preserves with total openheartedness. They've too often found plant life trampled and mutilated, trees carved, and beer cans, cigarette butts, and paper scattered after the throngs have left. But Audubon





The boardwalk extends over half a mile into the swamp, revealing the sanctuary's most cherished components



Guides now patrol the walk to answer questions and be of service to guests



Wood ibises are now nesting in encouraging numbers

officials are enthusiastic over the success of their tourist reception program at Corkscrew, under fire of heavy patronage.

Corkscrew Swamp Sanctuary, preserving the last remnant of unsullied tropical Florida, is 16 miles from the nearest town and 50 from the city of Fort Myers at the southwestern edge of the peninsula. Within its more than 6,000 swampy acres the angular, moss-draped baldcypress trees grow thickly, reaching heights of 130 feet, circumferences of 25 feet, and ages of 700 years or more. Often their tops are covered with far-stretching canopies of perching wood storks, sometimes referred to as "wood ibises." Below the cypresses lie a land of rare orchids, odd air plants which cling to the trees, expanses of water lettuce, and assorted wildlife, including pipe-legged egrets, otters, panthers, alligators, and water moccasins. Dense with tropical growth, the land is submerged, depths ranging from a few inches to more than four feet of water.

Many persons unfamiliar with the geography of Florida think of the Everglades sector to the south as being composed of similar tropical swampland. But actually, the Everglades are characterized by spacious, grassy glades tufted with occasional higher hummocks of palms, over which water from the higher ground flows at shallow depths. The Everglades have their rivers, creeks, ponds, and lakes, but the true

swamps belong to Corkscrew.

Legend says that Corkscrew Swamp drew its name from the twisting nature of the strand of virgin giant cypresses which once covered a wide, winding path extending more than 20 miles. Little more than five years ago, the Audubon Society had to pull off a melodramatic, nick-of-time rescue of what was left of the great swampland. By 1954, the ravages of developers' bulldozers and loggers' saws had shrunk it to the comparative pocket remaining today, and that area was due to be mowed down, too.

Contributions totalling \$200,000 came quickly in response to urgent appeals. A tract of 2,240 acres was purchased for \$170,000. The Lee Tidewater Cypress Company donated another 640 acres. On the 2,880 acres nearly all of the virgin baldcypress trees stood defiantly. An additional 3,200 buffer acres were leased from the Collier Co. These were planted largely with pine and small cypress, but did contain about 80 acres of the bigger specimens.

"Creation of this sanctuary had behind it four principal purposes," says Carl W. Buchheister, national Audubon Society president, whose headquarters are in Audubon House across from Central Park in New York City.

"First, we wanted to save from destruction a swamp area containing the largest remaining virgin stand of baldcypress. These trees

are museum pieces. They are to the East almost what the redwoods are to the West.

"Second, we were preserving a typical, unspoiled cypress swamp—a complex of water, plant life, and the towering trees which serve as the home of many kinds of birds, mammals, and reptiles. In saving the cypress, we saved the very habitat of all these creatures.

"Thirdly, a great plume bird rookery was being saved. In the memory of white men, the Corkscrew Swamp area has always harbored large nesting colonies of wood storks, white ibises, common egrets, and other herons. I might just say that the storks have nested in encouraging numbers last year and this, after a bad slump. We've had more than 4,000 pairs this year. With a telescope, you can see them in the tree-tops feeding their young about 200 yards from our boardwalk.

"Fourth, it was our intention to let the public see all this which we are fulfilling, and to interpret for our visitors what they saw. When you consider the rapid despoliation of Florida's wildlife," Buchheister declares, "you can see what saving these 6,000 primeval acres means!"

Arriving at the sanctuary via the new road leading from Florida Route 846, the visitor proceeds to the new gatehouse. This has been appropriately designed in the form of a "chickee" shelter, associated

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Mr. H. R. Glascock, Jr., is the forest counsel for the Western Forestry and Conservation Association

**A**N interesting case of concern to every citizen is starting to receive widespread notice. For lack of a better name we call it "The Case of Limited Land, Unlimited Demand." It has to do with our finite land mass and our infinite, growing need for its benefits. We must give it our professional attention at once. The following clinical report may be helpful in our understanding of the case.

**Patient:** The patient's name is Our Forestland Base.

**Residence:** Patient resides in several forest regions widely scattered throughout the country.

**Date:** Reported for examination March 17, 1960.

**Age:** Patient is ageless.

**Physical Description:** Patient's size is somewhat over half a billion acres, formerly much larger. Net forest and woodland area is reported to measure some 615 million acres. Appearance is indescribably diverse due to large variations in soil, topography, latitude, climate, and history.

**Clinical History:** Complaints and reports of observers and resource users have resulted in numerous clinical tests, surveys, reports, and recommendations during the past 10 years.

**Symptoms:** Reported symptoms include: apparent inability to handle fast-increasing demands made upon it by people; gradual, steady shrinkage of available parts both public and private; over-use in some parts, under-use in other parts; competing demands culminating in high group pressure; patient reports being beset with conflicting philosophies of land use and being concerned over doubtful professional jurisdiction in the case. Symptoms are reported to have intensified noticeably in recent years.

*The case of:*  
**LIMITED LAND,  
 UNLIMITED DEMAND**

By H. R. GLASCOCK, JR.

**Physical Examination:** The most complete physical examination of the patient's timber resources in 1955 indicated a more favorable and improving balance between growth and removal. But no surplus of commercial forest land was found and intensification of timber management on the remaining acreage was urgent to meet long-term wood requirements.

A physical examination of the patient's recreation resources is under way and was originally scheduled for completion in September, 1961. It is expected to be the most thorough and searching examination of these resources ever given the patient. Early indications are that it will show the need for more attention to recreational developments within close range of population centers. It is expected that the report will include data on the large recreational potential of the non-forest lands throughout the nation, including the deserts.

Physical examination of the mineral, water, range, and wildlife resources of the patient are incomplete and fragmentary. Thorough examinations of these resources showing kind, quantity, and location are badly needed to enable patient to most nearly meet demands made upon it by people now and in future. It seems especially important that we should have complete knowledge of minerals and other non-renewable resources at the earliest possible time. It is self-evident that without freedom of exploration this is impossible.

Examination of the ownership pattern of Our Forestland Base has been made. It shows a great disparity between eastern and western parts. About three-fourths of the commercial forest land is located in the East and one-fourth in the West. While seven-eighths of this land is private in the East, only about one-third is private in the West.

Population counts show 180 million people, two-thirds located in the eastern part. Trend indicates there will be well over 300 million by the year 2000. Many low density parts have high population growth rates. Demands for most uses are rising at faster rate than population, indicating increasing per capita consumption in these uses.

**Diagnosis:** Recent diagnosis indicates chronic peopleitis, intermediate stage.

**Differential Diagnosis:** Although symptoms have in past been attributed entirely to poor land management, management has generally improved sharply in recent years while symptoms have become more pronounced. It is felt that less intensive management has been a complication and aggravation in the case, but that chronic peopleitis would have produced the symptoms reported even without it and therefore is the basic condition of the disorder.

**Recommended Treatment:** Treatment indicated is full-scale operation multiple or integrated use involving all parts except national park system and other presently restricted-use systems. Multiple-use legislation protecting and supplementing the act of June 4, 1897, and other acts to accompany operation on federal parts. Existing multiple-use programs on private lands to be encouraged by extending custom of charging for recreational use to owners not now receiving remuneration therefrom to offset costs of such use. In the West, this can be done by first obtaining more uniform practice of charging for recreational use on the high percentage of federal lands. Transfusions of common sense about supply and demand relating to natural resources.

**Post-Operative Management:** Check of each area of Our Forestland Base regularly for maximized output of benefits for owners. Where output is insufficient to accommodate demands, further develop, intensify and integrate forest land uses, attempt to divert over-demand to other areas. Integrate and co-ordinate uses. Continually improve compatibility of uses. Develop evaluation of non-commercial or unpriced benefits. Check flow of land from multiple to limited use. Develop resistance to special-interest legislation affecting public lands. Require Congressional approval for federal land withdrawals over 5000 acres, for any purpose.

**Therapeutics:** The following remedies are prescribed: 1) Research as needed to intensify forest land management. 2) Surveys as needed to inventory resources and demands upon them. 3) Education as needed for vital public understanding of full versus restricted use of resources. 4) Appropriations as needed for essential development of public for-



Mr. Glascock instructs a group of children on nature study trip in the forest

Children gain new appreciation of the natural world through author's talks



est land with roads, recreational facilities, etc. 5) Public appreciation of extent to which multiple use is already being practiced on both private and public lands. 6) Pay-as-you-go recreation with charges made of user. 7) Study of adequacy of compensation for real property acquired by government.

**In Charge of Case:** The professional forestland manager.

**Prognosis:** Guarded. Course of case depends more upon adequacy of treatment than condition of patient. Substantial improvement possible within 10 years. Without treatment, worsening of condition and critical stage are inevitable.

**Remarks:** We hear more and more about a controversial treatment for the land and people problem, one which is starting to be considered  
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W. F. McCulloch

By W. F. McCULLOCH

**I**F your preference in boat trips runs to plushy floating hotels, formal dining, and masquerade dances, stop here. This is not for you. But if glaciers and magnificent soaring mountains excite you, if the rugged paths of the pioneers quicken your pulse, then read on. It is still possible for hardy tourists to adventure into the past on the Stikine Trail, one of the major gateways for the Gold Rush of 1898 into the magic Yukon.

Wrangell, Alaska, was a frantic point of departure for the Klondike gold mine, and seventeen paddle-wheel steamers regularly thrashed their way up the Stikine River from Wrangell into the northern interior of British Columbia. Some 150 miles upstream at the head of navigation for steamboats the stampede town of Glenora was chopped out of the woods. Then it was a madhouse of thousands of frenzied miners all hell-bent for the gold fields. Now Glenora is just an empty gravel flat along the Stikine, with scattered old log cabins rotting among the cottonwoods. There are a few other tangible reminders of the hectic past. There's the doorless abandoned safe of the MacKenzie and Mann Construction Company, which optimistically started to build a railroad from Glenora to the Klondike. Several miles were graded when the shorter White Pass route was discovered out of Skagway, and Glenora collapsed. Hard by Glenora is Brewery Creek, so named because some enterprising and presumably thirsty citizens shipped in the whole

works of a brewery and assembled it on the creek. Must have had a good business, too, for there are beer bottles still lying around in the brush.

A little lower down the Stikine near Glenora is Hudson's Bay flat, today marked only by one old barn with the roof caved in. Here the company outfitted its long pack strings to service isolated posts in the interior. In front of the barn is still a well-defined road down the river bank, where miners excitedly swarmed to meet the steamers crowding in to the landing. Today all the fever, the rambunctious gaudy splendor of the Klondike rush, is gone. The restless river remains ceaselessly tearing away at its raw banks, capriciously building and destroying gravel bars weekly, toppling trees into the water, and shifting channels without warning.

There are a few Indians still netting great salmon and an occasional prospector always hoping to recapture Eldorado; there's the small town of Telegraph Creek to replace Glenora, and instead of the stern-wheeler fleet, there's only the *Judith Ann*, the last boat to Telegraph. The British Columbia government is building a road to connect Telegraph Creek with the Alaska Highway at Watson Lake. Undoubtedly this will reduce the freight haul, and after the *Judith Ann* makes her last run, it is unlikely that the Stikine wilderness will again see a freight or passenger boat.

The British Columbia-Alaska boundary line slices across the river

At Telegraph Creek, B. C., the weekly mail plane makes its landing on the river. Note cordwood pile in the lower foreground. A cord of wood is important unit of measure here



The "Judith Ann" shoves a barge loaded with gas barrels up-river to Telegraph



not far from its mouth. The famed "invisible frontier" between Canada and the states is distinctly visible here; timber has been felled to make a wide clear swath through the trees. This clearing is man's most visible work between Wrangell and Telegraph; all else is wilderness.

Farther upriver are two narrow rock-bound canyons, flowing with swift turbulent menace. In Little Canyon the treacherous water blocked small steamers during the gold rush, forcing them to transfer passengers and freight to bigger, better-engined boats. At one time traffic on the river was so thick that a signalman was stationed by the worst canyon. Downstream boats couldn't possibly stop in the fast water, so he gave them the right of way and held upriver boats till the Wrangell-bound steamers charged past.

Today the *Judith Ann* has the river all to herself, and there is no traffic problem. Al Ritchie, of the Ritchie Transportation Company at Wrangell, operates boats on both the Stikine and Taku Rivers. He has been on northern rivers for 30 years and reads waters as other men read books; ripples on the surface, eddies, the set of current against a bank, all tell a tale to an experienced river man. And this experience is needed, for the river always remains a puzzle.

It takes all the horsepower of the *Judith Ann's* big diesel engine, plus two husky outboard motors as pushers, to inch past the sheer rock walls

(Turn to page 56)

ley peaks and timbered mountains along  
Stikine River, a gateway to the Yukon ▶



# Last Boat to TELEGRAPH



When white pines are cut, some turpentine remains in the stumps a long time, gradually polymerizing and oxidizing

# Cosmic Rays and Old P

## About the Author

**DR. NICHOLAS T. MIROV**, an old-timer in the U. S. Forest Service, is plant physiologist at



**Dr. Nicholas T. Mirov**

the Pacific Southwest Forest and Range Experiment Station, Berkeley, California. He is the author of some 80 publications; the latest one, "Fragrance of Pines," appeared September, 1959, in the Atlantic Monthly. In May, 1958, he received from the Secretary of Agriculture a gold medal and the Department's Distinguished Service Award for his work on the physiology and chemistry of pines. Lately "Nick" has been busy co-operating with Los Alamos scientists in their studies of the distribution of Carbon 14 in nature. The present article deals with one phase of the Carbon 14 project.

THE earth's atmosphere is composed chiefly of a mixture of nitrogen and oxygen, with a mere sprinkling of carbon dioxide and traces of other gases. When cosmic rays penetrate the atmosphere, their neutrons occasionally collide with nitrogen atoms and convert them into radioactive Carbon 14. Carbon 14 combines with oxygen, forming radioactive carbon dioxide. Thus, among the molecules of ordinary carbon dioxide of the atmosphere there are always minute amounts of radioactive carbon dioxide.

Now plants, in their daily consumption of carbon dioxide from the air to build their bodies, inadvertently take in a few molecules of radioactive carbon dioxide. Normally the concentration of Carbon 14 in plant tissues derived from radioactive carbon dioxide is so small that it is absolutely harmless and even difficult to detect with conventional radioactivity counters.

But the "liquid scintillation"





Stumps on this cutover land in lower Michigan are white pine. Some white pines left from cutting are seen on horizon

# d Pine Stumps /

By N. T. MIROV

*Pacific Southwest Forest and Range  
Experiment Station, Forest Service  
U.S. Department of Agriculture*

counter can detect Carbon 14 in plants which contain liquid hydrocarbons. The radioactivity of such compounds can be relatively easily converted into light energy which manifests itself in glowing or scintillation. By using this method scientists are now measuring minute fluctuations in Carbon 14 in the atmosphere over long periods of time—and pine trees have made it possible.

Pines have proved to be admirably suited for this purpose. They contain large quantities of a mixture of liquid hydrocarbons, commonly called turpentine. The time needed for a molecule of radioactive carbon dioxide to be taken from the air and decomposed, and for the Carbon 14 thus liberated to be incorporated into turpentine, is as yet undetermined.

When pines are cut, some turpentine is left in the stumps where it remains for a long time, gradually polymerizing and oxidizing. When

an old pine stump is excavated its turpentine can be extracted and its radioactivity measured by the liquid scintillation method. The intensity of radioactivity will reveal how much Carbon 14 was in the atmosphere when the pines were alive and growing.

Before the advent of the industrial age, at the end of the 19th century, Carbon 14 activity in the atmosphere was fairly constant. Also constant was the Carbon 14 concentration in the pines of primeval forests. If a place could be located in an industrial part of the country where some pines were cut, say in 1880-1890, then the concentration of Carbon 14 detected in their stumps would give information on the Carbon 14 content in the air during the 19th century (the period of their growth).

With the arrival of the industrial age, when pine forests rapidly disappeared and man began to burn fossil fuel—coal and oil—non-radio-

active carbon dioxide was introduced into the atmosphere. It has been so because organisms from which coal and oil were formed obtained their carbon dioxide from the atmosphere millions of years ago, but the "half-life" of Carbon 14 is only about 6,000 years. Industrial smoke may have many undesirable characteristics, but it is not guilty of polluting air with Carbon 14.

Stumps of pines born at the beginning of the 20th century and cut in the middle of it, but before 1954, would supply information on Carbon 14 concentration during the first fifty years of the industrial age. Since 1954, when intensive nuclear testing began, emitted neutrons have joined cosmic neutrons in their bombardment of atmospheric nitrogen. As a result, the concentration of Carbon 14 in the air has increased. Turpentine from living trees tapped after 1954 would tell us about Car-

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# Leonard Hall Wins Stokes Award

Leonard Hall, columnist for  
the *St. Louis Post-Dispatch*

THE Thomas L. Stokes Award Committee last month presented a \$500 award and a citation to Leonard Hall, columnist for the *St. Louis Post-Dispatch*, for the best writing in 1959 on conservation and utilization of natural resources.

The Stokes Award Committee was formed in the spring of 1959 by friends and admirers of the late Thomas L. Stokes, nationally syndicated columnist who wrote so forcefully, effectively, and independently on conservation, development, and utilization of natural resources. Its purpose is to encourage outstanding journalism in the field of natural resources, in the spirit of Tom Stokes.

In presenting the award, the judges said Leonard Hall's writing through the year "most closely paralleled that of Tom Stokes himself. Hall writes in the great tradition of the naturalist, expressing in all his pieces his great love of his Ozark country, and with homely simple eloquence

appealing to his readers to preserve this heritage."

The judges also said of Hall's work: "His writing ranges over the whole area of conservation—on the necessity of saving the soil and developing the watersheds, of reforesting the hills and keeping the natural wet lands for breeding birds. He has a scientist's equipment for his work and the natural style of a man at home in his chosen environment."

Leonard Hall is a widely known lecturer, wildlife photographer, and author, as well as nature and country columnist for the *St. Louis Post-Dispatch*. A native Missourian, he spent his boyhood in the Ozarks. After serving in the Navy in World War I, he studied agriculture, farmed for some years, and then engaged in advertising and publishing. He wrote numerous articles on farming, natural history, and the Missouri hill country. These articles developed into his twice-weekly "Country

Column," appearing in the *Post-Dispatch* for the past 17 years.

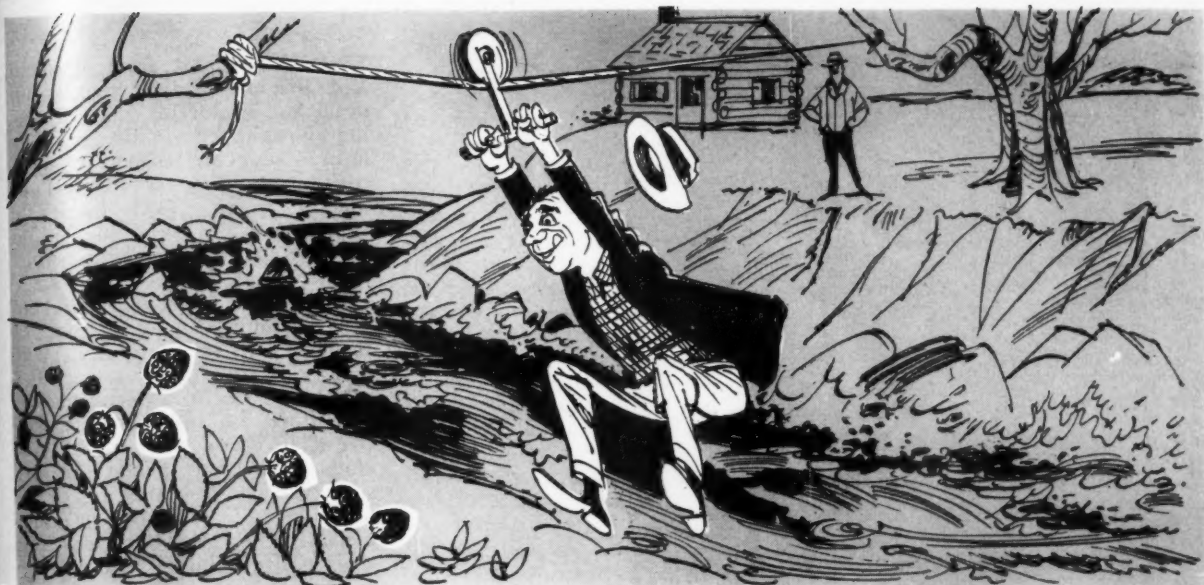
Since 1946 Hall and his wife, Virginia, have lived at Possum Trot Farm, Caledonia, Mo., some 85 miles south of St. Louis.

Hall has written three books—*Possum Trot Farm*, in 1949; *Country Year*, in 1956; and *Stars Upstream*, 1959—and is working on a fourth. His awards and honors include: the Conservation Federation of Missouri's Master Conservationist Award, in 1948; conservation citation of the St. Louis Audubon Society, in 1949; honorary Doctor of Laws degree from Westminster College for distinguished service to conservation, in 1950; *Outdoor Life* magazine's National Conservation Award, in 1952; creative writing award of the Missouri Writers Guild, in 1955; and American Association for Conservation Information's award of merit, in 1959.









Only the lure of luscious wild strawberries would induce hiker to swing across the perilous river

## *We Tramped the Idaho Wilderness*

By GEORGE M. BELL

OUR station wagon bumped its way for fifty miles on rough, twisting, dirt roads into the rugged mountains of Idaho's panhandle. There the road came to an abrupt end. The driver of our station wagon bade us good-by and turned the car back toward Salmon, Idaho. My son, my brother, two of my law students and I were at the kickoff spot for a 60-mile jaunt across the Idaho primitive area, unchanged since the last band of Indian braves surrendered to the U. S. Army in 1879.

This was the old home territory of the Sheepeater Indians. There are no roads, only animal trails and a few unmarked forest trails. A near-delirium of staggering mountains, canyons with precipitous walls, and unending summits leads to the distant spot 60 miles due west where the road and civilization begin again.

There are no stores or cafes in this wilderness area of roughly .75 million acres. The dollar bill is valueless. We were five lone human beings whose existence now depended on how well we had planned and on our ability to avoid injury and illness.

As I stood at this point of no return, the silence of the great forest was overwhelming. I forgot my trick knee, the rattlesnakes we would have to sleep with on the ground, the lack of a guide, and all my other worries, and responded to the challenge of the adventure.

The Army in this wilderness had counted as casualties as many as ten mules a day during the Sheepeater wars, so we decided not to use mules. Instead we loaded some supplies onto two crude carts, then slung our 45-pound packs of clothing, dried foods, and sleeping gear on our backs and began to fight our way up a jagged boulder-strewn mountain-side. Although we had trained for weeks to prepare ourselves, we were not equal to the exertion. After a few miles one of our party marked the end of our first day by collapsing. Momentarily, we doubted our decision to use carts rather than mules, but after resting and eating he quickly recovered.

In our first two days, we had covered only a fraction of the territory we would need to cover to complete the trip in nine days. The second

day we abandoned some items, added essential things to our already heavy packs, and pushed the carts over a cliff. Now we felt even more alone. In two days we had seen no humans. Deep in towering mountains dark with forests of pine, we were far from both the problems of civilization and its security. Any mistake, even an infected blister or heel lost from a boot, might present a real problem. When we unrolled our sleeping bags at night we searched the area for rattlesnakes. Aware that our packs, full of food, were an invitation to marauding bears, one of the five of us slipped a loaded .45 under his pillow.

But we became hardened to the trip. The third day we started to make better time. We had learned never to jump even the short distance off a fallen log. The pack seems to arrive a split moment later to jolt you.

Noon on the third day out found us in a box canyon on the shores of a beautiful lake. A small band of mountain sheep grazed high on one of the steep canyon walls. We ate,

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These girls discovered that it would take several other people to reach around this huge tree, planted many years ago by John Porter

DRIVING west from Portland, Oregon, you come upon an unusual and wonderful sight. Towering above all else in the lush Tualatin Valley are clusters of great trees, resembling symmetrical cathedral spires. They touch the clouds, dwarfing everything, including the native Douglasfirs which themselves grow to enormous size.

Near Forest Grove, a peaceful college community, is an awesome cathedral hall of nearly 40 giants along a picturesque farm lane. It is a sight to behold, attracting hordes of visitors each year. There is none like it anywhere in the world. And close examination brings the final surprise. The big trees are the *sequoia gigantea* of California's high Sierras. They are a long way from their native habitat. How did they get here?

"Sequoia Johnny" brought them. These lusty goliaths of the forest are a product of the California gold rush. This strange man, with a vision and love of trees before his time, brought home cones instead of

# Sequoia Johnny and His N

The big trees growing on John Porter's sequoia lane are visible for miles. Unfortunately, he never saw the results of his labors, but he envisioned the beauty the trees would bring to the valley





gold nuggets to beautify his beloved valley. He left a legacy for future generations, and his unusual story has become a fascinating legend of the Old West.

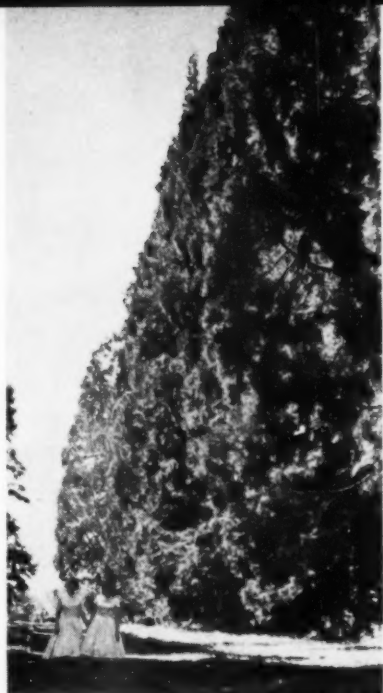
The cry of "Gold!" echoed throughout the Oregon country more than a century ago. Farmers dropped their tools and abandoned their families to go in search of the yellow stuff. Young John Porter turned his back on the little nursery he was developing near Forest Grove and joined the Forty-Niners heading south to the gold fields, with dreams of a vast fortune swirling in his head. Folks were surprised, for Johnny was a thoughtful lad and not one to go adventuring. Since coming to Oregon with his parents in 1847, he had seemed most interested in making things grow. The valley's rich green landscape, its dashing streams and ankle-deep grasslands were a welcome sight after the parched plains. Johnny was rightfully impressed with the tall green firs and thick forests of his new homeland. He started a nursery—

one of the territory's first—and was soon supplying settlers with fruit tree cuttings. In a few years he would have a thriving business.

Then the gold fever hit. The weeds took over in Johnny's abandoned nursery. But the get-rich-quick dreams soon wore thin. Porter found the back-breaking work in the creek beds of the Mother Lode not to his liking. His attention turned to the intense natural beauty of the Sierras. While others scratched for the yellow metal, Johnny wandered through the woods, studying the trees and flowers.

One day Porter stumbled on an astonishing sight—a tree so tall and straight that it seemed to support the sky. It was so enormous that Johnny pinched himself, thinking he was dreaming. He grew more excited as he found others. He stood for hours, wondering at their unbelievable height and girth and age. He guessed they had been there for thousands of years, the largest and oldest of earth's living things. They

*(Turn to page 55)*

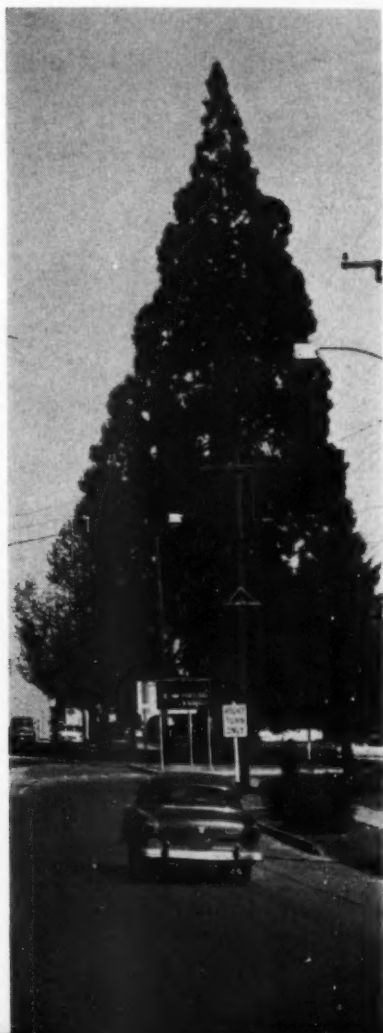



Forty sequoias from Mother Lode country grow along lane near Forest Grove

John Porter's sequoias tower above all else in valley. Trees are 200 feet tall

# is Nuggets

By ELLIS LUCIA



An aerial photograph showing the Deception Pass Bridge spanning a deep, rugged gorge. The bridge is a long, straight structure with a truss design, connecting two landmasses. The surrounding landscape is steep and forested, with a river or inlet visible below the bridge. The sky is overcast.

Aerial view of Deception Pass  
Bridge from the Whidbey side

## The Park

IN the late 1700's, world sea powers searched feverishly for a waterway through North America as a trade short cut to the Far East; the mythical "Straits of Anian." British Captain George Vancouver anchored the *Discovery* off a promising entrance in what is now Washington State's Puget Sound, and sent an exploring longboat ahead.

When the craft returned a few days later it was from the opposite direction. "It's an island, Captain," the crew reported. "We make it 60 miles long, between three and ten wide. Heavy timber, wide sandy beaches, lots of fish, clams, game, friendly natives. . . ."

"Deceived again," muttered Captain Vancouver. "Well, name the island as 'Whidbey' on the chart; and yon narrow passage 'Deception.' Even its current flows in all directions."

And Deception Pass it is today, twelve-knot tidal currents roaring between Whidbey and Fidalgo islands, creating treacherous eddies and fantastic whirlpools. It lent its name to Deception Pass State Park, 2700 acres of virgin outdoors on both islands abutting its formidable length. The park itself is a living testimonial to the dogged tenacity of a small group against "big interests" through more delays, frustrations, and deceptions than Vancouver ever charted.

The Federal government held title to north Whidbey Island—second largest in the U. S. until Sweet Leilani and Sourdough Sam joined up—dating from the 1872 boundary settlement with Britain. During World War I the rocky heights looming two hundred feet above the pass were fortified, since enemy warships would theoretically steam through the pass to attack Seattle or Tacoma down-sound.

About 1923 the land was deeded to Washington State, and the battle for a park began. A central parks agency was as mythical as the Anian Strait, and the "interests" in the state capital, Olympia, immediately lobbied to sell off the towering Douglasfir, cedar, and hemlock

# Misnamed Deception

By TOM BURRIER

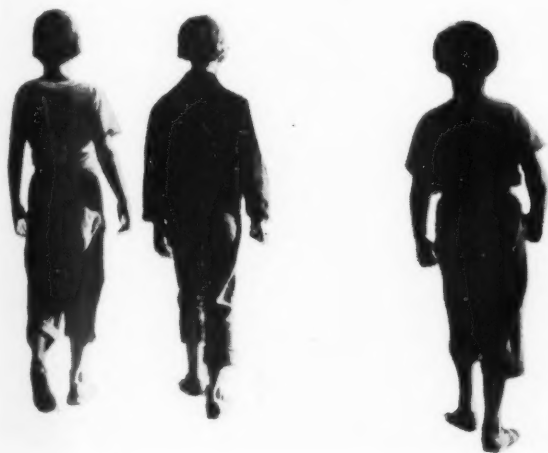
crowding the tract. Possibly their failure was due to a lack of roads into the area.

Whidbey Island counted less than 3,500 residents, wheat and poultry farmers. Access was by a tiny ferry skittering across salt water from the mainland to a dock adjoining the future park. But the people knew what they had and, by tenacious diligence, blocked every legislative move to sabotage "our park."

A county road was improved and extended into the area to the shores of fresh-water Cranberry Lake. North Whidbey residents organized as the "Farm Bureau Association" and voluntarily flocked to the lake shores on weekends via Model-T and horseback to clear underbrush and deadfalls. A diving raft was built and anchored, two slab-sided bath houses erected, and a crude community kitchen set up. Sporadic attempts to mutilate the park from all quarters were fought off.

Over the next decade Farm Bureau efforts crystallized at an annual picnic at Cranberry Lake, where two main objectives were shouted so loud, so long, so continuously that they were heard above the roar of the pass: formal state park status for Deception, and a highway bridge over the churning salt chuck.

"I couldn't step off the ferry,"  
(Turn to page 43)



These children anticipate happy outing in the park



Small Deception Island as seen from bridge

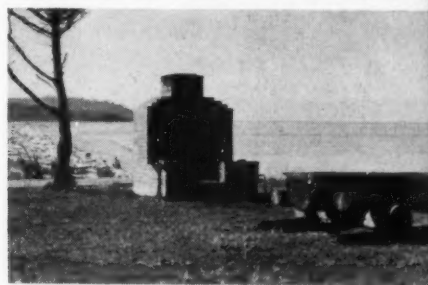


Blockhouse built in 1855 is relic of Indian Wars



Surf casting from Fidalgo Island side of the Pass is popular

Barbecut-pit picnic grounds at Rocky Point





THE national forestry spotlight is on the 42-acre farm of Kimbrell Cunningham of Atmore, Alabama, because it includes the 50 millionth acre certified into the American Tree Farm System.

The milestone acre is in a slash pine plantation bisected by the right-of-way of a new interstate highway connecting Montgomery and New Orleans. Appropriate markers will be erected at the site to attract the attention of the motoring public, according to James C. McClellan, chief forester for American Forest Products Industries, Inc., national sponsor of the 18-year-old forestry program.

The Cunningham Tree Farm is about 20 miles from the nation's first certified Tree Farm, now owned by the heirs of the late E. N. McCall of Brewton, Alabama.

The American Tree Farm System of private timberland management actually had its inception on the West Coast in 1941 when a small town Washington State editor offered the term "Tree Farm" to a lumber industry seeking a better way of telling its forest management story to the public. This occurred at a time when people were becoming aware that trees, a vital natural resource, were becoming important as a weapon of defense.

The idea of the "Tree Farm" spread quickly across the country. On April 2, 1942, Alabama became the first state to launch an organized Tree Farm program. By the end of 1942, seven states were in this industry-sponsored national movement.

Today, as the 50 millionth acre is recorded in the program, there are

## 50 MILLIONTH ACRE



more than 16,000 certified Tree Farms in the United States. The words "Tree Farm" have become the people's words for forestry.

Like many of the nation's Tree Farmers, Cunningham does not live on the land itself. Although he spends a great deal of his time on the land, he works as a maintenance man for an oil company operated by his half-brother in Atmore.

The farm was left to Cunningham 25 years ago by his father. It consisted of 12 acres of longleaf pines with the remainder in row crops. He has planted about 30 acres of old cotton fields in slash pines. This year he plans to plant his entire farm to trees.

Over in the native longleaf pines Cunningham has stacked samples of four products of his forest. He has

treated fence posts, old-fashioned light wood fence posts, railroad cross-ties, and shingles.

Cunningham was surprised recently to learn that he has a small fortune on the ground beneath his longleaf pines. This is in the form of dried, perfectly shaped longleaf pine cones, which bring premium prices on northern markets as household holiday decorations.

A glance at the walls of his home proves that Cunningham is an outdoorsman. He has a dozen deer heads mounted to prove his marksmanship. A storeroom in his garage holds many more deer heads. This would indicate that every time he goes hunting he brings back game. This is not true. On Nov. 10 Cunningham shot his first buck in 11 years.

Tree Farmer Cunningham is a Marine veteran of the Pacific campaign in World War II. He is best known in his home town for his youth work. He holds the Order of the Arrow from the Boy Scouts of America.

Active as an advisor and adult leader with the Alabama-Florida District of the Gulf Coast Council, Boy Scouts of America, Cunningham accompanied local scouts to the National Jamboree at Valley Forge six years ago. Following an illness, Cunningham became active with Explorers. He took a group to the Boy Scout Ranch in New Mexico last year and is now looking forward to taking 32 boys to the 1960 Jamboree at Colorado Springs, Colo. He is always helping scouts pass their forestry merit badge requirements.



Products of Cunningham's Tree Farm are shown. He is holding shingles in front of pile of treated fence posts. In back, untreated poles, formerly used for fences

Cunningham inspects the 50 millionth Tree Farm Acre, located on his slash pine plantation near Atmore, Alabama



Kimbrell Cunningham, with Mrs. Cunningham, displays his collection of Boy Scout District patches, souvenirs of his visit to Philmont Boy Scout Ranch in New Mexico

## Conservation: What Definition Do You Use?

(From page 6)

velopment that an increased appropriation and a friendly, but reasonable, persuasion couldn't cure. The desire is there.

With this background of familiarity with forest management, it therefore comes as a shock to hear spokesmen of some outdoor groups hurl charges that the lumber industry of today is a "ruthless woods murderer," and that the Forest Service doesn't care anything about recreation, that it is interested only in timber sales, that it is unable to cope with the recreation problem, and that the wilderness is dwindling under its administration. Sorry, but I cannot concur with these charges.

Similarly, there was a time not so long ago, before the scene shifted, when it was popular to criticize the Park Service for every new development. Some of us learned that we had to take this, too, with the proverbial grain of salt. Especially worth noting was the criticism over salvage of a blowdown in Olympic National Park which turned out to be a very wise procedure and neatly executed; charges of "massive destruction" in Yosemite over construction of the new Tioga road; charges that the Stevens Canyon road in Mt. Rainier was a "high-speed highway which leaves a scar visible for miles outside the park"; charges of a "super-highway" on the rim of the Grand Canyon; and such other irresponsible criticism as "that awful hotel" in Jackson Hole, that "glorified hot-dog stand" at Mt. Rushmore, and an "architectural monstrosity" on Clingman's Dome. Is it any wonder, then, that there is building up a body of thought that has learned to take a second look before panicking? Taking a second look is now the rule rather than the exception, and it produces some surprising results. . . .

I would like to apply that second look to some of the conservation issues of the day. First of these is the Wilderness Bill, which may or may not receive favorable action in this session of Congress. I once wrote a statement entitled "The Cart Before the Horse," in which I held that any wilderness legislation was premature, pending the wilderness research called for in the Dana report. I am, therefore, pleased that a wilderness study is now being undertaken for

the ORRRC by the Wildlands Research Center of the University of California, headed by Dean Vaux and Dr. Gilligan. The final recommendations could very well provide the basis for a solution to this controversial issue.

Next, I would like to discuss the subject of the campaign for national park expansion. I am not a critic of the national park idea. I like the parks, the way they are run, the dedicated people who run them, and their most excellent interpretive service. I am very proud of my heritage as preserved in the national parks. I am also an admirer and user of the national forest wilderness system, and I have never thought of the two systems as competing against each other. I think there is a need for both in any well-rounded outdoor recreation plan, and I have defended both quite vigorously on occasion and shall continue to do so.

Under the innocent do-gooder

name of "saving the wilderness," which in reality is a bad case of the "gimmies," the status quo group has launched a drive to achieve the wholesale dismemberment of the national forest system. The national forest system seemingly is up for grabs to the extent of its scenic portions. In gratitude for being the most lavishly treated group in the history of outdoor America, the slogan now is, "Make Forestry Prosaic." Reason for the switch to national parks is because the Forest Service will not "knuckle under" to the pressure to set aside large blocs of predominantly commercial and roadside values in wilderness areas.

This drive started with Resolution No. 8 passed by the western outdoor clubs virtually without question or time for consideration. Only the Mazama delegate objected that she couldn't vote on such a sweeping measure without opportunity to study it. It calls for the usual "gimmick" of a "study" leading to transfer from the Forest Service to the Park Service of some 13 limited areas in Oregon and Washington, 41 primitive areas (of which 12 are in California) not yet reclassified for their wilderness values, four dedicated wild and wilderness areas already established in Oregon along with surrounding commercial forests, the Kern Plateau, and a long list of other lands in Alaska and the Western states having a "high" recreational value. Some of the demands in this stratospheric scheme are worthy of a place in a special hall of fame for wild and irresponsible ideas.

Resolution No. 8 has been followed by a concerted attack on the multiple use concept of public land management which seems not to have occurred just by accident. Individual areas are being pushed through the media of colored movies and slick-paper publications. It is all tax-exempt. Through the use of pictures and captions, a false and misleading impression is created of the work of the Forest Service. To give a rough example, there will be a telephoto shot of a distant mountain in the background and some perfectly legitimate patch cutting on ordinary forest land in the foreground, and a caption reading, "Do you want your recreation areas to

### 1961 Committee on Elections

Don P. Johnston, president of The American Forestry Association, has announced that Wilson Compton of 734 College Avenue, Wooster, Ohio, has been named chairman of the Committee on Elections. Other members are Tom Gill, executive director, Charles Lathrop Pack Forestry Foundation, 1214-16th Street, N.W., Washington 6, D. C., and Henry J. Malsberger, general manager, Southern Pulpwood Conservation Association, 900 Peachtree Street, N. E., Atlanta 9, Ga. Suggestions for nominations for directors of the association to be elected by the membership may be submitted to the Committee on Elections by any member of the Association. The committee has the responsibility of nominating directors for 3-year terms starting January 1, 1961. This year the terms of five directors expire. Nominations for directors may be made by not less than 50 members of the Association in good standing, signed by the members submitting them. All suggestions and nominations should be addressed to the Committee on Elections, 919 Seventeenth Street, N.W., Washington 6, D. C., and must be received by the committee on or before September 1.





SCENIC high elevation lands are excellent for recreation. Commercial forestland below is used to grow timber in repeated crops, providing recreation and other values as compatible benefits. These are principles of proper land use.

## our forest heritage must be wisely used and perpetuated

*Water repellence of treated 4-Square siding is shown below, at right. This quality adds to paint life. Such improved products are a result of continuing Weyerhaeuser research.*



For more than three centuries commercial forestlands have supplied our expanding economy. Although steadily reduced in area by farms, villages, roads, parks and other necessities, our timberlands must continue to meet the demands of a population that almost doubles every fifty years.

Our needs are many, and mounting in volume. Forestlands must supply an increasing amount of lumber, plywood, pulp and other products. They also must provide recreation and other social benefits for more and more people. Further, they must continue to serve as watersheds and wildlife habitats.

If future needs are to be met, all timberlands must be wisely used. Such lands must serve the greatest good of the greatest number in the long run. Where practicable, they must be used for a variety of compatible purposes.

Commercial forestland must be devoted *primarily* to perpetual production of timber crops. Properly managed, it can provide numerous other benefits as well. Weyerhaeuser sustained-yield tree farms are so managed.



### Weyerhaeuser Company

Producers of lumber, plywood, pulp, paperboard, shipping containers, folding boxes, milk cartons, hardboard, particle board, Ply-Veneer, bark and wood fiber products

look like this?" The campaign is dirty and ruthless. The ethics exposed by Chester Warlow a year or so ago have not improved. They are the ethics of one who believes that all is fair in love and war.

The Department of the Interior has joined the campaign, and there are certain earmarks discernible that lead to the suspicion that one or two individuals (not necessarily in the department) see a chance to go down in history as the "Great White Fathers" of a doubled national park system. I regret two aspects of the situation. I regret the ethical stand-

ards which employ misrepresentation as a tool to obtain national parks, which ought to be able to stand honestly on their merits. And I regret that the National Park Service, with the exception of its seashore program, couldn't wait for publication of the ORRRC findings. I have the utmost confidence in the integrity and objectivity of this commission; whether it will recommend additional vast national parks in the West, where the bulk of parks already are, remains to be seen. But if it does, I am also confident it will suggest some guidelines

for the separation of the commercial from the park values. Unfortunately, the history of *carte blanche* does not erase the spectre of a hungry bureaucracy.

In the meantime you can help by working for passage of the Multiple Use Bill; there have been some 45 identical ones introduced so far. This bill will not specifically protect the national forests from these raids, but will at least give Congressional recognition and approval to the multiple use management of the national forests as a sound policy in the public interest. . . .

## Corkscrew Swamp

(From page 25)

with the Seminole Indians native to the sector, by James Callaghan, resident director of the Audubon Society's Theodore Roosevelt Memorial Wildlife Sanctuary at Oyster Bay, N. Y. Mr. Callaghan was detached from his position to supervise the expansion work at Corkscrew Swamp. Peeled cypress logs were employed for the frame and topped by long-lasting shingles rather than the palm fronds commonly used in the area. Leaflets describing the sanctuary are available at the gatehouse.

From there, sightseers move on a little way via a new roadway just built by the society to the cypress-timber boardwalk which carries its foot traffic five-eighths of a mile into the swamp, revealing the sanctuary's most cherished components. Two guides (Audubon interpretive personnel) now patrol the walk to answer questions and be of general service. Elsewhere through the preserve an increased staff of three wardens roam their separate ways, on the lookout for trespassing, dumping, hunting, fishing, or other untoward happenings.

The boardwalk begins in a low pine forest and progresses through a wet prairie. Then a stretch of small pond cypress, whose foliage consists of tiny, overlapping scales, is encountered. Curious air plants cling to the cypresses. They are not parasitic, but draw their nourishment solely from the air. Neighbors of the air plants on the cypress trunks and limbs are many rare orchids, including the cigar, onion, night-smelling, and jingle-bell varieties.

Now the monarchs of the swampland, the great baldcypresses, loom above. Their foliage, differing markedly from that of the pond cypress,

is of a feathery character and is shed in winter, making the baldcypress one of the few deciduous conifers. Festooning the trees are sagging bunches of Spanish moss, commonest of air plants in the United States.

Cypress are among the longest-lived of trees. Many along the boardwalk have stood for 600 to 700 years; most of them are now hollow. Healthy youngsters are completing their second and third centuries! Other species found within the sanctuary include the custard apple, pop-ash, swamp maple, and redbay.

The cypresses stand as a rule in one to three feet of water, but here and there among them lie deeper lakes. Most of these are lushly covered with water lettuce, constituting what might be termed some of the world's largest salads.

The lettuce lakes are a favorite recreation area for Corkscrew's alligators, frequently observed sunning themselves on logs or lying atop the lettuce. They range in size from eight-inch babies to powerful, 10-foot adults. During his supervision period, Audubon agent Callaghan swam in a lettuce lake while a big 'gator squatted a mere 50 feet away; on another occasion, he picked up a log under which a rattlesnake lay three inches from his fingers. "Most wild creatures would rather run than fight," he observes casually.

Many songbirds find uncommon privacy in the swampland, among them the tufted titmouse, brown-headed nuthatch, Carolina wren, mockingbird, bluebird, white-eyed vireo, meadowlark, red-wing, cardinal, and many warblers.

Helping Callaghan to build and repair was a team of swamp-wise Seminoles from the tiny settlement

of Corkscrew near the sanctuary. "You could set any one of those Seminoles down in the middle of the swamp with an axe and he'd never starve," Callaghan says in tribute. "He'd build a shelter and then a trap in which he could catch something to eat. They know everything in the swamp that's edible."

Hundreds of visitors daily have benefited from the team's preparations. And the sightseers have come in heavy numbers in spite of the new \$1.00 admission charge for those 12 years old and up, imposed by the society to help meet the cost of the physical additions and staff enlargement.

Regulations are stiff. Children 6 through 11 are admitted free when accompanied by an adult; younger children are not admitted, nor are pets of any kind. No refreshments are sold. Picnicking and overnight camping are not allowed. Collecting—even scientific—is forbidden.

In a state to which vacationers flock, the Audubon people have learned a lot in a very short time about the handling of the public en masse in a place of natural beauty. Doing it to the satisfaction of the dedicated naturalist has been considered next to impossible by the working "pro's" of state and national park services and wildlife agencies. Crushed green shoots and discarded refuse have been too much a part of the daily record.

But proclaims Audubon President Buchheister, "The society has found it can lick this problem, employing strict regulations and enforcement of them. We believe we have demonstrated that we can admit the general public—keeping it within a prescribed area from which it can view truly unspoiled nature."

## The Park Misnamed Deception

(From page 37)

complained one legislator of the time, "but what people would start yammering at me about the pass, or the bridge, or both. How could we justify that much money for a sparsely populated island with nothing but trees, ocean, and scenery to offer?"

The "yammering" extended to buttonholing legislators wherever and whenever found, massive letter-writing-to-Olympia campaigns, and countless speeches by pro-park residents before mainland service clubs.

In 1934, probably in self-defense, county, state, and federal officials approved a two-lane highway bridge over Deception Pass, 270 feet below. Its approaches, hewn from solid rock, would almost exactly bisect the newly-approved Deception Pass State Park on both islands, and the project opened Whidbey Island to uninterrupted tourist and commercial traffic.

In the general rejoicing over the bridge opening in 1935, a new Civilian Conservation Corps encampment on Cornet Bay within the park went almost unnoticed. But here local influence, now backed by the state, had channeled a CCC group to Whidbey for the sole purpose of developing park acres to usable status. And these eastern city boys (mostly from New York and New Jersey) carved a thing of beauty in the wilderness, a job rated "highly professional" by experienced recreation men.

"What the CCC accomplished 25 years ago at the pass and in other state parks was phenomenal," says Ray Maylor, current mayor of Oak Harbor and very active in the old Farm Bureau Association. "Its work is the best recommendation for reestablishment of the CCC as an aid to both nation-wide recreation areas and unoccupied youth."

The Corps took up where the Farm Bureau left off. They built hiking trails, 11 miles of them, radiating from Cranberry Lake to half a dozen sea beaches, to the towering top of "rock-hound heaven" Goose Rock, to their barracked headquarters at Cornet Bay. A new diving raft and imported sand improved swimming pleasure. A central camp kitchen and dozens of scattered fireplaces—all of native stone—were carefully constructed. Danger spots

on trails were fenced, as was the bisecting bridge highway, railed with massive timber-and-rock bulwarks blending perfectly with the evergreen timber. The CCC project ended before the job was finished, and floods of vacationers began discovering Vancouver's frontier island.

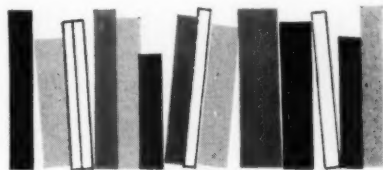
"We had the scenery, swimming, fishing, boating, flowers, trees, and rocks," explained a park official in 1941. "But no facilities for trailers, large school and church groups, mass campouts."

World War II crimped most non-essential motoring, and the park hibernated for five years. By 1947 families were again on the vacation trail as never before, and the parks problem returned fivefold. The State Parks Department was broke, dependent on meager appropriations from a legislature more immediately involved with paying a state veteran's bonus, rebuilding worn-out highways, and balancing a war-ballooned budget. The Parks Department was land-poor.

Washington State, along with a few other seaboard fortunates on both coasts, presented a curious outlook. Bountifully endowed with forests, mountains, lakes, streams, and ocean beaches, it was difficult to imagine their not being there always—until prodigious amounts of the until-then eternal landscape began disappearing down the drain of private homes, industrial plants, and suburban expansion of the postwar boom.

Finally it dawned on the Washingtonians that their pre-war wilderness was being overrun not only by vacationers, but by genuine new emigrants; if parks were to keep up with population, parks had better be buying up virgin acreage before it vanished forever. Since tourism was fast becoming big business, parks needed money right now.

Again the Whidbey Island ghost of the Farm Bureau vigilante spirit spearheaded the drive. The State Parks Commission was reformed and revitalized. Funds were taken out of the political football game, and intelligent future planning for park expansion done. Park acreage doubled, tripled, and in 1960 is still growing, with once-scorned Deception Pass Park leading them all with well over half a million visitors in 1959. Major park policy is to main-



## "The Future Book"

June, 1960

**June 18—The American Forestry Association, Directors' Meeting, Washington, D. C.**

**June 20—Western Association of State Game & Fish Commissioners, Salt Lake City, Utah**

**June 23-25—Izaak Walton League of America, Leamington Hotel, Minneapolis, Minnesota**

July, 1960

**July 11-12—Council of Forestry Association Executives, Southern Hotel, Columbus, Ohio**

**July 17-20—American Association of Nurserymen, Netherland Hilton Hotel, Cincinnati, Ohio**

**July 22-28—Boy Scout Jamboree, Colorado Springs, Colorado**

August, 1960

**August 14-19—National Shade Tree Conference, Statler Hotel, Boston, Massachusetts**

**August 15-18—Conservation Education Association, Oneonta, New York**

**August 25-27—National Christmas Tree Growers' Association, Purdue University, West Lafayette, Indiana**

**August 28-31—Soil Conservation Society of America, Ontario Agricultural College, Guelph, Ontario, Canada**

**August 29-September 10—Fifth World Forestry Congress, University of Washington, Seattle, Washington**

September, 1960

**September 12—California Redwood Association, 576 Sacramento Street, San Francisco, California**

**September 12-14—Association of State Foresters, Florence Hotel, Missoula, Montana**

**September 14-16—Western Pine Association, Semi-Annual Meeting, Multnomah Hotel, Portland, Oregon**

**September 18-21—International Concatenated Order of Hoo Hoo, Arlington Hotel, Hot Springs, Arkansas**

**September 18-23—National Conference on State Parks, Samoset Hotel, Rockland, Maine**

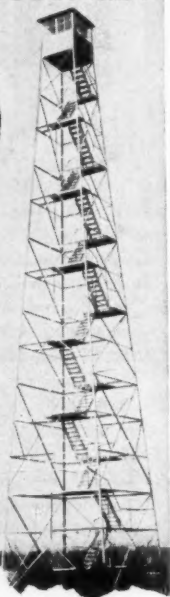


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tain nature's gifts, not alter them.

"Deception Pass Park is a rare combination of outdoor assets," says John Vanderzicht, progressive State Parks Director. "Visitors come here to enjoy natural scenery and recreation uncluttered by a lot of commercialism and city 'conveniences.' As population grows, so does the park need, for a place where citizens can 'get away from it all' in outdoor relaxation."

An unobtrusive little stand selling ice cream and peanuts at Cranberry Lake, plus a few rental boats, are the only concessions to commercialism within the park. And boat owners may launch their craft free of charge into Cranberry Lake, or Puget Sound, off parks-owned ramps. And launch them they do, by the thousands!

Whidbey Island, and particularly Cornet Bay within the park, is in the heartland of ocean salmon grounds. King salmon to 60 pounds, silver, humpback, and dog salmon to lesser weights are eagerly sought by armies of sport fishermen. Sea bass, rock bass, halibut, and ling cod are plentiful in approaches to Deception Pass. State Parks is currently renovating overnight mooring docks and facilities at Cornet Bay for the convenience of larger craft: an overnight stopping place for weather-bound yachtsmen.

A non-profit group of Whidbey and mainland church, school, and civic organizations renovated the old CCC barracks at Cornet Bay, in return for the privilege of summer camping. Groups are "booked" through this association for a weekend, week, or fortnight. In 1959, 73,000 young people, mostly from Washington cities, thus enjoyed nature at its best in Deception Pass Park. The association does all repair and maintenance work, furnishes its own lifeguards and camp supervisors. Accrual to state parks is the gratitude and happiness of thousands of children.

At Cranberry Lake a new 700-foot long bathing beach has been created on the lake's west side, complete with bath houses and showers, for the 1960 season. Thus it is possible to swim in spring-fed Cranberry, walk across 150 yards of sandy isthmus, and plunge into the much colder water of the Pacific Ocean in a Deception Pass approach.

A resident Park Supervisor occupies hunting-lodge style quarters at the park entrance. His regular maintenance staff has created several trailed parks adjacent to Cran-

berry Lake, to an extent that practically all trailer applicants can be accommodated; in 1959, 40,000 "trailer nights" were recorded. A token charge of 75¢ per car covers firewood, water, and minimum night lighting. *Nothing* in Deception Pass is cut down, unless it's a menace to life; firewood is gleaned from windfalls by the park crew, or imported.

Columbia black tail deer roam freely along the hiking trails, and a goodly population of raccoon, skunk, and rabbits, plus a few opossum and fox bring wildlife close to campers. Blue grouse, native pheasant, and all manner of song and sea birds populate the air. Goose Rock, as a plus to its "rock-hound" reputation, sprouts hundreds of colorful wild flowers and shrubs in dirt-filled crevices in spring and summer.

On the Fidalgo side of the park at Bowman's Bay the state maintains a fish hatchery and experimental station, fascinating to "inland" visitors. Surf-casting from the jagged rocks buttressing this shore is highly productive of rock bass and ling cod. A second small lake on this side is open to fly fishermen only, and regularly produces rainbow trout in the two pound class.

Deception Pass Park, twenty road miles from Mount Vernon (nearest mainland city) and eighty from Seattle, is a natural scenic stopover for "loop" tours originating in Seattle. The travelers then drive south down the length of Whidbey Island, reaching the mainland again via car ferry at the southern end for return to Seattle.

Through all the park facilities, structures, and accommodations runs a naturalness, a primitive beauty carefully preserved. A billboard, or concessions of the amusement park variety, would be sacrilege indeed against the grandeur of Deception Pass, the silent majesty of 200-foot fir trees, the sheer beauty of an ocean sunset on a quiet evening from Goose Rock.

The park today—and many more like it in Washington—is a priceless tribute to the will of the people in wanting at least part of the wilderness retained for themselves, their visitors and their children.

It is claimed that old ghosts, like old soldiers, never die. And as the estimated 750-thousandth vacationer enters Deception Pass State Park this 1960 season, it seems likely the Farm Bureau Association shade will beam benevolently from the Pass bridge.

# FORESTER'S NOTEBOOK

By KENNETH B. POMEROY

**D**ID the Indians really burn the woods?" School children have asked this question frequently. Until recently, about all we could say was "yes." Now an answer in more detail can be given.

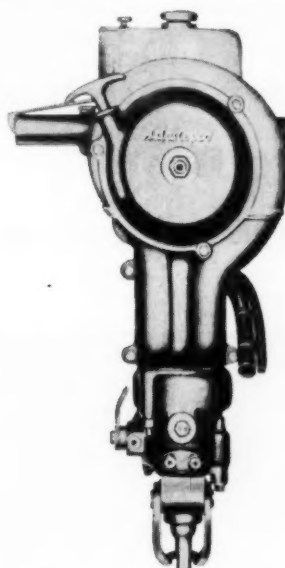
While searching the historical records of North Carolina as a part of the present landownership study in that state, the following eye-witness account by John Lawson, Surveyor-General for the Province of Carolina 1700-1711, was found:

"When these savages go a-hunting, they commonly go out in great numbers, and oftentimes a great many days journey from home, beginning at the coming in of Winter; that is when the Leaves are fallen from the Trees, and are becoming Dry. 'Tis then they burn the Woods, by setting fire on the Leaves, and wither'd Bent and Grass, which they do with a Match made of the Black Moss that hangs on the Trees in Carolina, and is sometimes above six feet long. This, when dead, becomes black (tho' of an Ash-Colour before) and will then hold fire as well as the best match we have in Europe. In Places where this Moss is not found, (as towards the Mountains) they make Lintels of the Bark of Cypress beaten, which serves well. Thus they go and fire the Woods for many Miles, and drive Deer and other Game into small Necks of Land and Isthmus's, where they kill and destroy what they please. In these Hunting-Quarters they have their Wives and Ladies of the Camp, where they Eat all the Fruits and Dainties of that Country and live in all Mirth and Jollity, which is Possible for such People to entertain themselves withal. Here it is that they get their Complement of Deer-Skins and Furs to trade with the English. All small game, as Turkeys, Ducks and small Vermine, they commonly kill with bow and arrow, thinking it not worthy throwing Powder and Shot after them."<sup>1</sup>

Colonel William Byrd, one of the Virginia commissioners appointed to survey the boundary with North Carolina, noted in his diary on October 17, 1728:

"... the Atmosphere was smokey all around us, due to the firing of the woods by the Indians."<sup>2</sup>

Going back two centuries further to 1524, Giovanni da Verrazzano, an Italian explorer in the employ of France, prepared the first written report of the East Coast of North America and noted: "... and we saw everywhere great fires by reason of the multitude of the inhabitants." This was in the vicinity of Onslow Bay, North Carolina. He also reported 26 species of trees and commented upon the suitability of southern pines for rosin, turpentine, tar and pitch.<sup>3</sup>



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<sup>1</sup>Lawson, John. *History of North Carolina*, Garrett and Massie, Richmond, Va. 1951. Pages 122-3.

<sup>2</sup>*Ibid.*, page 167.

<sup>3</sup>Hakluyt, Richard. *Divers Voyages Touching the Discovery of America and the Islands Adjacent*. The Hakluyt Society, London. 1850.

## Edgewater Gulf Hotel to Host AFA 1960 Meeting



Edgewater Gulf Hotel, Edgewater Park, Mississippi, is located on Gulf of Mexico

THE American Forestry Association will hold its 85th Annual Meeting, October 16, 17, 18, and 19, at the Edgewater Gulf Hotel, Edgewater Park, Mississippi. Located on the Gulf of Mexico, the Edgewater Gulf Hotel is situated midway between Gulfport and Biloxi. The hotel has a maximum capacity of 750. It also has 700 acres of landscaped grounds providing a wide array of recreational opportunities.

PLAN to be with us. Make your reservation today by writing direct to the hotel. Rates (European Plan) are as follows:  
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## From "Dust Bowl" to "Tree Bowl"

(From page 13)

ble is satisfactory. Land that is in sod should be tilled two years before the trees are planted, in order to conserve moisture and kill grass roots.

In North Dakota 99 per cent of the trees that are planted in windbreaks are planted by machine. These machines are designed for prairie planting. The broad-leaved species are planted from eight to 12 inches deep, so the machine must be strong enough to stand the pressure of making a trench to that depth in the heaviest soils. These machines, with two people doing the planting, average from 1500 to 2000 seedlings an hour. The 75 Soil Conservation Districts in North Dakota own more than 150 tree planting machines which they operate during the spring planting season.

Clean cultivation of the newly planted windbreaks is essential for good survival and growth. This also helps the trees to survive the long, cold winters. For many years the only method of keeping the weeds out of the tree row was by hand hoeing. This hand work was so costly that it was next to impossible to get it done, especially where a farmer had an acre or more of new trees. Within the past two years a mild revolution has taken place in the cultivation of young plantings. This new method is called "over-the-row cultivation." It is accomplished by dragging finger-type weeder over the tree row at from five to seven miles per hour. Specially made or adapted implements are used. The cultivations must be made when the weeds are one-half inch or less in height; in a normal season three or four cultivations are sufficient. Many Soil Conservation Districts own this special tree-cultivating equipment and do the cultivating on a custom basis.

Over-the-row cultivation can safely be used on any species during the first year of planting. Species with a spreading habit of growth cannot be safely cultivated with this method after the first year. This would include Siberian elm, Russian olive, and willows. Those species with an upright habit of growth such as green ash, American elm, or caragana may safely be cultivated in this fashion two to three years after planting.

When the trees become too large for over-the-row cultivation, a vari-



ety of cultivating equipment is used. This includes a corn cultivator, field cultivator, tandem disc, one-way, sub-surface tiller, etc. The idea is to cultivate as close to the trees as possible. Because the trees are closely spaced in the row, they soon form a canopy which shades out most of the weeds.

Spacing between the trees in the single row plantings is important. Where a single species is used, such as Siberian elm, Russian olive, or willows, the spacing is four feet in the row. Where a tree and shrub combination planting is made, the trees and shrubs are alternated, with the spacing not to exceed two and one-half feet between seedlings.

Evergreens are not generally recommended for field windbreak plantings in North Dakota. There are several reasons. Evergreens mostly prefer an acid soil, whereas the Northern Plains soils are on the alkaline or limey order. Good survival is hard to get most years. They make too dense a row for proper snow control, and they could be completely killed out in case of a prairie fire.

Trees for windbreak planting are produced in several types of nurseries. By far the majority of trees

and shrubs are produced by the two nurseries that are owned and operated by the North Dakota Association of Soil Conservation Districts. These two nurseries, located near Bismarck and Oakes, produce an average of six to seven million broad-leaved trees and shrubs annually.

The state nurseries at Bottineau and Towner produce a million or more trees each year, and thereby supply most of the evergreen needs for windbreak plantings in the state. Commercial nurseries in North Dakota, Minnesota, South Dakota, and Canada have supplied the additional needs by producing from one to two million trees per year for use in North Dakota.

Future needs for field windbreaks in our state are tremendous. It has been estimated that approximately 400,000 miles of field windbreaks are needed to adequately protect the cropland of this state. These windbreaks not only aid in the control of wind erosion, but their benefits in holding moisture in the form of snow are equally important. Experts agree that potato and sugar beet land cannot be adequately protected except by windbreaks.

The Mouse River and Turtle

Mountain Soil Conservation Districts in Bottineau County, which are located along the Canadian border in the north central part of the state, planted 900,000 trees and shrubs in 1959, with the Soil Conservation Service giving technical help. This was an increase of 600,000 since 1958.

Rolette County Soil Conservation District planted the most trees in a concentrated area. This district planted pattern-type field windbreaks on 60 quarter sections in one township in 1959. An interesting sidelight is that 24 farmers visited the Lyleton, Manitoba, tree planting project the year before; 23 of them planted trees on their farms in the spring of 1959.

Recent visits to North Dakota by foresters from both India and the Soviet Union have encouraged us to continually expand our tree planting operations. These foresters told us that they are using the system of planting pattern-type windbreaks in their respective countries. Narrow windbreaks, many of which are single row plantings, are being used in their patterns.

Gradually the so-called "treeless plains" are blossoming into a place of dustless beauty.



FOREST FIRE EQUIPMENT (Trade Mark)

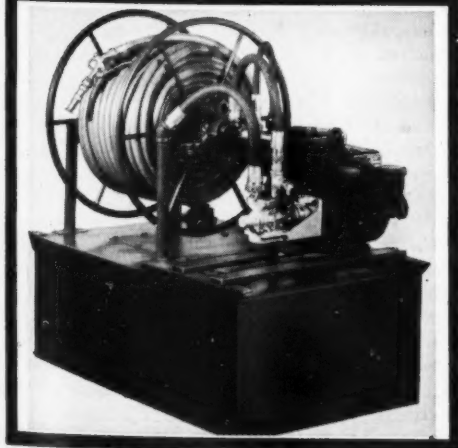
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## The Case of: Limited Land, Unlimited Demand

(From page 27)

seriously and even practiced on an organized basis in such populated countries as Japan and India. This treatment is population control. The prudent course for us to follow here would seem to be to be able to assume continuing increases in demands on Our Forestland Base in the foreseeable future. Whatever other treatments may develop later, it seems clear that we must strive now toward maximizing the benefits from the land to meet these demands.

Another treatment recently advanced for peopleitis affecting Our Forestland Base is operation "primary use." It is claimed by its proponents to be the only final and effective treatment for this condition, the only way that land can be used to realize the greatest total benefit. It is described as a "totality of land use" wherein there is "intensive use of each parcel of land for its basic and primary purpose" and "eventual elimination of all uses which interfere" with this purpose. Thus the dominant use of each unit of land would become the exclusive use for that land except as incidental uses did not interfere or were unpreventable. This concept then would minimize the compatibility of uses and maximize a dominant or primary use for each land unit. Our Forestland Base would be broken up into units, each being managed essentially for an exclusive use.

In sharp contrast, the multiple use treatment for land prescribed above maximizes the compatibility of forestland uses. Often more than one use will find optimum development in the same area. Since this concept is applied to larger areas of land rather than to individual acres, it by no means precludes assignment of some parts to restricted or exclusive use. But the concept is based upon the proposition that there is generally a large, and potentially larger, area of compatibility between most forestland uses; that only by increasing this area of compatibility through technical and administrative advances and thereby further integrating uses can land be used to realize the greatest total benefit.

Admittedly, when a unit of land is managed for several uses, a given use may often have to be modified or reduced in output somewhat from

the level of its optimum development to accommodate the other uses. But most forestland is capable of being managed for each of several uses without serious conflict and at levels of production substantially above an unmanaged condition. The criterion to govern the management of each unit of land must always be: which use or combination of uses under what management practices will produce the greatest sum of benefits for the owners continuously?

It seems logical then that full, integrated and co-ordinated use—or multiple use—is not merely the preferable treatment but the only treatment which offers hope of permitting Our Forestland Base to serve well the needs of people through maximum benefits. It has been said by J. H. Berryman of the Minnesota Bureau of Sport Fisheries and Wildlife that "no single resource use can exist today as a separate function of resource management." There simply is not enough land to divide it up and manage more and more parcels, units, or vast areas for limited or exclusive use. It may well be asked whether the current program of promoting "primary" use is in reality aimed more at transferring additional large tracts of forest land to agencies specializing in limited or exclusive use than at maximizing benefits from land.

In any event, our profession has a grave responsibility to study this case objectively and through its leadership to provide the remedy for the chronic forestland and people problem; a responsibility to show the public that while preservation of landscapes and outdoor museums is an essential part of land management, it does not solve the crisis in outdoor recreation and, like all good things, can be overdone; that the big job now in conservation is not "string-saving" and fearful withdrawal of more lands from use, but rather it is confidently using our lands wisely and fully to keep our very prolific and progressive nation strong and happy and free. Our biggest professional contribution to conservation will be to continue to advance the productivity of the lands. Our biggest single tool will be co-operation. The reputation of our profession is at stake in this case.

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## WASHINGTON LOOKOUT—From page 7

# FORESTRY IN THE FEDERAL BUDGET

## (Fiscal Year Ending June 30, 1961)

U. S. FOREST SERVICE	1961 Budget	P.L. 86-455
<b>Forest Protection and Utilization</b>		
Timber sales administration and management	\$20,175,000	\$20,175,000
Reforestation and stand improvement	3,465,000	4,430,000
Recreation and public use	14,830,000	14,595,000
Wildlife habitat management	1,270,000	1,535,000
Range management	3,000,000	3,145,000
Range revegetation	1,600,000	1,770,000
Range improvements	1,965,000	2,150,000
Soil and water management	1,615,000	2,078,000
Mineral claims, leases, etc.	4,369,900	4,684,900
Land utilization projects	1,125,000	1,225,000
Protection—fire	14,345,000	14,887,000
Structural improvements	9,100,000	9,740,000
Rehabilitation, burned areas	.....	300,000
Fighting forest fires	5,000,000	5,000,000
Insect and disease control	6,899,800	7,044,800
<b>Acquisition</b>		
Weeks Act	100,000	100,000
Superior National Forest	1,000,000	750,000
Special acts	10,000	10,000
<b>Research</b>		
Forest and range management	7,354,600	7,759,600
Fire control	905,000	980,000
Insect	1,049,000	1,099,000
Disease	880,000	925,000
Forest products	3,103,400	3,353,400
Forest survey	1,490,000	1,490,000
Economic	550,000	650,000
Construction of facilities	1,000,000	1,075,000
<b>Roads and Trails—construction and maintenance</b>	30,000,000	30,000,000
<b>Access Roads—purchase</b>	1,000,000	1,000,000
<b>State and Private Forestry</b>		
Forest fire control	10,087,500	10,087,500
Tree planting	291,000	291,000
Forest management and processing	1,543,000	1,543,000
General forestry assistance	413,300	413,300
<b>TOTAL U. S. FOREST SERVICE</b>	<b>\$149,536,500</b>	<b>\$154,286,500</b>
<b>DEPARTMENT OF THE INTERIOR</b>		
<b>Bureau of Land Management:</b>		
Management of Lands and Resources (Total)	(\$24,475,000)	(\$25,950,000)
Forestry	5,832,500	5,832,500
Soil and moisture conservation	3,252,500	3,727,500
Fire suppression	400,000	400,000
General administration	1,542,200	1,542,200
Cadastral surveys	2,801,200	2,801,200
Other	10,646,600	11,646,600
O & C Lands (Total)	\$10,000,000	(10,000,000)
Construction & acquisition—roads	9,078,000	9,078,000
Reforestation & improvements	672,000	672,000
Operation & maintenance—roads	250,000	250,000
Other access roads; buildings; recreation	350,000	350,000
Range improvements	925,000	925,000
<b>TOTAL BUREAU OF LAND MANAGEMENT</b>	<b>\$35,750,000</b>	<b>\$37,225,000</b>
<b>Bureau of Indian Affairs (Forestry and related items only):</b>		
Forest and range management	3,085,000	3,085,000
Fire suppression	140,000	140,000
Road construction and maintenance	13,000,000	13,000,000
<b>National Park Service (Forestry and related items only):</b>		
Forestry and fire control	1,013,000	1,013,000

## Maine Looks to the Future

(From page 23)

duced bark-free slabs which can be used by pulp mills. In 1957, John Eaton of Rochester, Vermont, built a plant in East Baldwin, Maine, which is equipped to chip slabs and edgings so that they can be used to make pulp. Six nearby sawmills, each equipped with a log debarker, are hauling their debarked pine slabs and edgings to the plant. After they are chipped they are transported in large trailer trucks to the S. D. Warren Paper Company, which also purchases chips from two other plants that were constructed after the Eaton plant was built. This additional supply of chips—about 90 to 100 cords per day, all of which comes from wood that was formerly wasted—brings the total equivalent amount of pulp from chips at the Warren Company to the average growth of 60,000 acres of woodland per year.

The pulp and paper companies also give a lot of attention to Tree Farming programs. The S. D. Warren Company started their program in 1954 with 31 members owning some 18,000 acres. By the end of 1958, this Tree Farm Family had grown to 125 members with 55,000 acres. The Warren Company is working with the objective of having all of their members become Tree Farmers.

The International Company of Maine also has an extensive 62,000 acres of certified Tree Farms. This area—the second largest in the state—is in the Mattaamkeag District. The timberland is under the supervision of a graduate forester, an experienced woodsman who has been with the company for 37 years. The woodland is managed primarily for the production of spruce and fir pulpwood. Diameter limits for harvesting have been established for spruce, fir, and hemlock pulpwood as well as for hardwood and white pine. All wood is cut on a marked tree basis, and the program is set up with a 6,000-cord yearly harvest as a goal. A careful study has proved that this goal is well within the potential growth rate of the land.

With all of these forces—spearheaded by the Maine Forestry Department—working to insure the future wood harvest of Maine, it seems probable that wood products will continue to be the biggest business in the state for many years to come.



## TRAIL RIDERS OF THE WILDERNESS

### 1960 Expedition Schedule

#### QUETICO-SUPERIOR WILDERNESS, CANADA (Canoe Trip)

JULY 12 TO JULY 21  
\$210 from Ely, Minnesota  
Party limited to 18

#### YELLOWSTONE NATIONAL PARK, WYOMING

AUGUST 8 TO AUGUST 19  
\$250 from Moran, Wyoming  
Party limited to 25

#### HIGH UINTAS WILDERNESS, UTAH

JULY 12 TO JULY 22  
\$230 from Vernal, Utah  
Party limited to 20

#### SAN JUAN WILDERNESS, COLORADO

AUGUST 16 TO AUGUST 26; AUGUST 30 TO  
SEPTEMBER 9  
\$230 from Durango, Colorado  
Party limited to 25

#### SAWTOOTH WILDERNESS, IDAHO

JULY 19 TO JULY 29; AUGUST 2 TO AUGUST 12  
\$230 from Ketchum (Sun Valley), Idaho  
Party limited to 25

#### TETON WILDERNESS, WYOMING

AUGUST 22 TO SEPTEMBER 2  
\$250 from Moran, Wyoming  
Party limited to 25

#### WIND RIVER MOUNTAINS, BRIDGER WILDERNESS, WYOMING

JULY 25 TO AUGUST 5; AUGUST 15 TO  
AUGUST 26  
\$250 from Pinedale, Wyoming  
Party limited to 25

#### MT. WHITNEY-HIGH SIERRA, CALIFORNIA

AUGUST 24 TO SEPTEMBER 2  
\$250 from Lone Pine, California  
Party limited to 20

#### MAROON BELLS-SNOWMASS WILDERNESS, COLORADO

JULY 29 TO AUGUST 8; AUGUST 9 TO  
AUGUST 19  
\$230 from Glenwood Springs, Colorado  
Party limited to 20

#### GILA WILDERNESS, NEW MEXICO

AUGUST 30 TO SEPTEMBER 9  
\$250 from Socorro, New Mexico  
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# World Forestry Congress Program

**Increase in lay attendance seen with substantial portion of program devoted to subjects with widespread popular appeal; international tree planting ceremony to be a feature**

A recently published provisional program for the Fifth World Forestry Congress, August 29 to Sept. 10 at the University of Washington, Seattle, reveals that a substantial portion of the offerings will have widespread popular appeal. Also, a surprisingly large number of "non-professionals" are planning to attend from foreign countries simply because they like trees and tree-growing. Included in this list is that enthusiastic tree grower, the Baroness Voute of Holland, who recently

celebrated her 75th birthday.

In view of these developments it is now considered more likely that a number of lay members of The American Forestry Association may wish to attend part or all of the program. If so, they have a cordial invitation from Dr. I. T. Haig, executive secretary of the congress. Three members of the association staff will attend and will be available for any services members might wish. As of now, at least two board members will also be there, Dr. Wilson Comp-

ton and Edward P. Stamm. Inquiries should be directed to I. T. Haig, Fifth World Forestry Congress, Organizing Committee, Department of State, Washington 25, D. C. The registration fee is \$25.

A Congress highlight will be an international tree planting ceremony.

The first general session will take up the subject "Multiple Use of Forest Lands"—the congress theme—and the keynoter will be Dr. Richard E. McArdle, chief, U. S. Forest Service. His subject is "The Concept of Multiple Use of Forest and Associated Lands—Its Values and Limitations."

Others scheduled to discuss the subject at the first and second sessions are: G. G. Takle, former inspector general, Indian Forest Service; P. V. Vasilyev, U.S.S.R.; J. de Vassière, direction générale, des Eaux et Forêts, Paris, France; E. P. Cliff, assistant chief, U. S. Forest Service; Bernard L. Orell, vice president, Weyerhaeuser Timber Company; and J. Keller, Inspecteur Fédéral des Forêts, Switzerland.

A substantial portion of the program will be devoted to subjects of popular interest including recreation and wildlife. A session on "Management of Forest Lands for Recreation" includes Dr. Henry Vaux, University of California; Lars-Erik Esping, of Sweden; Lucas A. Tortorelli, of Argentina; and Nguyen Van Hiep, of Vietnam.

A session of "Wildlife Resources of Forest Lands" will feature papers by C. H. D. Clarke, of the Ontario Department of Lands and Forests; B. L. Mitchell, of Department of Game and Fisheries, Northern Rhodesia; Lloyd W. Swift, U. S. Forest Service; and Wolfgang Koehler, Forestry Secretary, German Embassy, Washington.

Justice William O. Douglas of the U. S. Supreme Court will present a paper on "The Values and Uses of Wilderness: A World View." Col. Mervin Cowie, director, Royal National Parks of Kenya, will discuss "The National Parks and Preserves of Africa: Their Significance and Problems Affecting Their Future."

## PROVISIONAL PROGRAM—FIFTH WORLD FORESTRY CONGRESS

DATE	MORNING	AFTERNOON
Sunday August 28	Registration	Registration
Monday August 29	Registration	Opening Ceremonies First Business Plenary
Tuesday August 30	First General Session Multiple-Use	Second General Session Multiple-Use
Wednesday August 31	Third General Session Progress in World Forestry	First Technical Session Silviculture I Session A Products VI Session C Protection III Session A
Thursday September 1	Second Technical Session Silviculture I Session B Logging IX Session A Economics IV Session A	In-Congress Tours
Friday September 2	Third Technical Session Products VI Session A Genetics II Session A Watersheds VII Session A	Fourth Technical Session Recreation VIII Session A Tropical Forestry X Session A Education V Session A
Saturday September 3	International Tree Planting Program Fifth Technical Session Watersheds VII Session B Products VI Session B Logging IX Session B	Sixth Technical Session Silviculture I Session C Products VI Session D Protection III Session C
Sunday September 4	Free	Seventh Technical Session Silviculture I Session D Logging IX Session C Watersheds VII Session C
Monday September 5	Eighth Technical Session Products VI Session E Silviculture I Session F Economics IV Session B	Ninth Technical Session Genetics II Session B Education V Session B Recreation VIII Session B
Tuesday September 6	In-Congress Tours	In-Congress Tours
Wednesday September 7	Tenth Technical Session Silviculture I Session E Protection III Session D Recreation VIII Session C	Eleventh Technical Session Products VI Session F Genetics II Session C Tropical Forestry X Session B
Thursday September 8	Free	Second Plenary
Friday September 9	Twelfth Technical Session Education V Session C Economics IV Session C Protection III Session B	Thirteenth Tech. Session Silviculture I Session G Products VI Session G Economics IV Session D
Saturday September 10	Final Plenary	



"People and Natural Reserves" will be the subject of Conrad L. Wirth, director, National Park Service. Prof. Jean G. Baer, of the Institute of Zoology, Switzerland, will speak on "Natural Reserves In Densely Populated, Highly Industrialized Nations," and Tsuyoshi Tamura, chairman, National Parks Association of Japan, speaks on "The Establishment of Parks in Western Pacific Nations."

A session on how to make deserts bloom seems certain to have a big attendance. A. Y. Goor, director of the Forest Research Institute of Israel, will discuss Israel's remarkable afforestation program. Others include P. Margaropoulos, of Greece, Raymond Price, director, Rocky Mountain Experiment Station, and M. Monjauez, of Algeria. Mr. Goor is generally regarded as the world's leading authority on this particular subject.

More technical will be star-studded sessions on progress in tree improvement and genetics—possibly the most important single subject to be considered in terms of the future. Other big fields to be explored include forest inventories, advances in silviculture, forest ecology and soils, weather and climate in forest protection, forest pathology, forest entomology, forest fire control, forest economics and policy, wood quality, chemistry and biochemistry of wood, lumber manufacture, utilization, development of new pulp sources, management for water production, planning and management, and tropical forestry.

Egon Glesinger, director, Forestry Division of FAO, Rome, will keynote a session on the topic "The Role of Forestry in World Economic Development." Speakers from Switzerland, U.S.S.R., Sudan, Africa, Thailand, Guatemala, and Canada will also speak.

Another topic to be discussed that is certain to attract wide interest is "How to Achieve Better Management on Small Woodlands." Speakers include L. I. Barrett, U. S. Forest Service; S. Obata, chief, Government Forest Experiment Station, Japan; A. Langsaeter, director, Skogdirektoratet, Norway; and H. Frolund, of Denmark.

### Items of Interest

Chairman Laurance S. Rockefeller of the OUTDOOR RECREATION RESOURCES REVIEW COMMISSION said last month that the northeastern and middle Atlantic states may be the

crucial areas in the years ahead in the effort to provide outdoor recreation opportunities for the American people. Mr. Rockefeller noted that over a quarter of the nation's people live in this area which composes about five per cent of the country's land mass. He said that preserving, acquiring, and developing recreation areas and facilities in this region is a matter that needs prompt and forceful attention. Mr. Rockefeller made his remarks before a meeting of the State Contact Officers of eleven northeastern and middle Atlantic states in Hartford, Connecticut. These contact officers, appointed by their respective gover-

nors, work with the commission in its task of recommending programs and policies to preserve outdoor recreation opportunities.

Two million trees, a record for Montana, were planted this spring for field shelterbelt, farm windbreak, farm woodlot and Christmas tree purposes, and for erosion control, reports Richard T. Marks, extension forester at Montana State College. Just last year a record of one million was set; and ten years ago only 287,000 trees were planted. Since 1956, plantings have increased by over 200 per cent.



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## Cosmic Rays and Old Pine Stumps

*(From page 31)*

bon 14 contents of the air during the atomic age.

For this kind of detective work, then, lower Michigan would appear to be ideally situated. Originally the state was covered with virgin pine forests. By the end of the 19th century the forests were heavily cut over. The land was cleared and stumps were either piled neatly along country roads to form the renowned stump fences, or left in the ground. These stumps contained Carbon 14 obtained from the air during the pre-industrial era. Subsequently the country around rapidly became industrialized. An enormous stretch of land, from Chicago in the West to Pittsburgh in the East, became dotted with smoke-belching cities. But it was good smoke, for it contained no radioactive Carbon 14.

Meanwhile, young pine seedlings appeared in the cut-over area, and by the middle of the 20th century farmers could cut these grown-up babies of the industrial age—now already sixty or seventy years old. Stumps

of these pines will tell us about changes in Carbon 14 concentrations in the air since the advent of the industrial age.

As time has passed the country has again become covered, with the help of man, with patches of pine. At present, pine trees in this third crop are old enough to be tapped for turpentine without harm. After suitable processing, the turpentine may be tested in a liquid scintillation apparatus to ascertain the amount of Carbon 14 in the living trees and correlated with the present Carbon 14 concentration in the air. Atomic scientists are now doing exactly this, and the U.S. Forest Service helps them in the woods. Data is being gathered on the fluctuation of Carbon 14 in the biosphere (including pines) and in the atmosphere. These statistics are important, for Carbon 14 is an extremely long-lived component of fallout. Its half-life 6,000 years may be considered brief, compared with geologic ages, but it is alarmingly long when measured by the span of human life.

## Reading About Resources

*(From page 4)*

world's standing timber, and Bates never manages to pull into the interwoven unity of the biota these mid-latitude forests to the degree that he does those that are tropical. Yet this is a small complaint.

Finally, the book concludes with a look at man himself. Not a philosophical view, to be sure—Bates is too clever to stumble into fields he does not know. Social and physical man is the subject here, we might say, as opposed to contemplative man. And the roots of this quick survey are very sound: "The economy of nature and the ecology of man are inseparable, and attempts to separate them are more than misleading, they are dangerous. Man's destiny is tied to nature's destiny, and the arrogance of the engineering mind does not change this. Man may be a peculiar animal, but he is still a part of the system of nature."

This thesis is argued persuasively. If I have a criticism of this final section, it is that Bates has so much to say concerning man's role in the natural world—obviously so much more than he has the space to say—that I could wish this concluding

section or "movement" of his work might have been made a second, companion volume. But what he has managed to compact into these pages is a superbly penetrating analysis of man the creature, and I can only hope that many thousands, tens of thousands, of literate, thoughtful men and women will read these chapters. They are of tremendous importance to everyone concerned with perceiving the real substance of human destiny. It is not enough to say that we belong to nature. We must understand **how** we belong. And that, despite its brevity, is what Bates tells us.

By all means find the time to read this book.

## New and To Note

In preparing the April column my fingers typed too fast, and a mistake slipped into print for which I make all apologies to authors Charles W. Schwartz and Elizabeth R. Schwartz: I misquoted the title of their fine and beautiful new book! The correct title is **The Wild Mammals of Missouri** (The University of Missouri Press and the Missouri Con-

servation Commission, 1959). This is one of those remarkable things: a reference book with unity. All the data its subject would require, complete with striking illustrations, is at the reader's finger tips, and yet the book has beginning, middle and end, it holds together in one piece. Other states might well envy a work of such quality.

**Maryland Forests**, by Craig D. Whitesell. Maryland Dept. of Research and Education, 1960. This slim pamphlet is a concise picture of the uses and condition of Maryland's forest lands. Available for 35¢ by writing the Maryland Board of Natural Resources, State Office Building, Annapolis, Maryland.

**Hydrology** by C. O. Wisler and E. F. Brater. John Wiley & Sons, 1959. \$9.25. An extensively revised version (2nd Edition) of a familiar and useful text. Not for amateurs.

**Ground Water Hydrology** by David Keith Todd. John Wiley & Sons, 1959. \$10.75. A new text concerned with all ground water problems: location, amount of supply, dangers of pollution, etc. Very thorough.

**Physiology of Trees**, by Paul J. Kramer and Theodore T. Kozlowski. McGraw-Hill, 1960. \$12.50. A completely scientific contribution that helps us further on our way toward understanding the greatest mystery of the forests: the internal life of a tree. A major work.

**The Physiology of Forest Trees**, A Symposium Held at the Harvard Forest, April, 1957. Edited by Kenneth V. Thimann. The Ronald Press, 1958. \$12.00. An older book that merits mentions with the Kramer-Kozlowski work above. Many experts are represented here; but like *Physiology of Trees*, the reader must be almost as much of an authority as the specialists, for this is heavy material.

### Sequoia Johnny and His Nuggets

(From page 35)

were indeed the handiwork of God. Somehow Johnny's quest for gold seemed of minor consequence now.

At last Johnny returned home, with two bulging sacks across his saddle. His parents and neighbors rushed out to greet him and view his great fortune in gold nuggets. Opening a sack, Johnny dumped out the contents. Jaws dropped in shocked surprise. "Why, that's nothing here but cones!" someone shouted. "Johnny must be plumb crazy. What's all your gold, Johnny?"



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Porter grew red. He tried to explain, but nobody would listen. They laughed at him. How do you describe the lofty giants of the Sierras to folks who have never seen them? How do you express the feeling of awe and humility when standing beneath them? Cones are a mighty poor substitute for gold nuggets. John Porter was a failure—and a fool—in the eyes of his friends.

Stubbornly, Johnny planted seed from the cones in his nursery. Before long tiny shoots were pushing from the dark soil, reaching for the sky. Porter tended them with loving care and an inner excitement. He drove off the deer which found them tasty morsels. The years went by, and the seedlings grew strong and healthy, thriving on the cool moist valley air. At last about 100 seedlings were ready for transplanting. John Porter was a dedicated man, living for a purpose. He carefully shifted 40 of the little trees to both sides of the country lane leading to the family farmhouse. He placed them about 30 feet apart. This was Johnny's one mistake. Already his own mind had faded as to the potential size of the sequoias.

At nearby Verboort, a tiny Dutch settlement, Porter set out 24 more seedlings in the Catholic churchyard. He gave seedlings to friends, hoping the trees would bring happiness and beauty to the valley for many generations. He became sort of a "Johnny Appleseed" of the Tualatin Valley. Yet as he planted, "Sequoia Johnny" realized he would never view the fruits of his labors. Nor would those who ridiculed him. The life of a man is but a fleeting second to that of a sequoia.

Today the landmarks of John Porter's handiwork are visible for miles. Merely a century old, the trees are

babies as sequoias go, yet they are already 200 feet tall. The climate is just right for them. Johnny's lofty trees are scattered everywhere. There are about 20 of them in Forest Grove. Five big sequoias grace the county courthouse grounds at Hillsboro. Large clusters, in groups of six, frame the picturesque Verboort church as inspiring outdoor shrines.

Just outside Forest Grove is the most magnificent display of all. Off Porter Road stands Johnny's remarkable sequoia lane. This beautiful hall of staunch giants is 150 yards in length. The sun sends yellow shafts upon the well-carpeted ground. Their rich fragrance fills the air. Their cool shade is welcome relief in summer, the massive branches a fortress against ravaging storms. In this peaceful corridor, the clatter and bang of the frantic 20th century seems far away. At all times the trees are a memorable attraction, causing visitors to pause and reflect on men like John Porter.

Yet the years have taken their toll. Johnny's error crowded the big fellows growing along his lane. A few were removed to accommodate the others. Chances are further thinning will be necessary in future generations, as these Sierra colossals thrust upward and outward. When the Verboort church burned in 1949, a few trees were consumed in the fire. Lightning is a common enemy, having smashed two trees in the churchyard in the past ten years.

Porter's amazing vision of this distinctive beauty for his valley has indeed come true. His legacy will survive thousands of years as living reminders that there are greater, more lasting things than glittering gold. Sequoia Johnny knew this when gathering his strange nuggets of the Mother Lode.

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### Last Boat to Telegraph

(From page 29)

and fierce current of Little Canyon. The outboards run in wells in the freight barge which the *Judith Ann* shoves ahead. This extra power, plus the capstan on the foredeck, allows the boat to go all the way to Telegraph, several miles above Glenora, where the steamers gave up. At a big riffle close to Telegraph Creek the boat sometimes runs out of easily navigable water. There's a wide shallow bar across most of the river, and next to the south

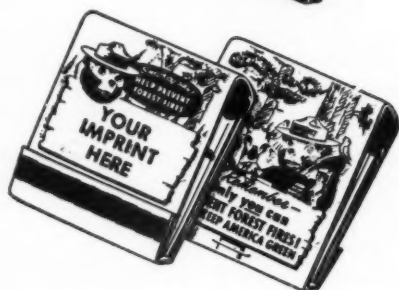
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shore a deep trough of very fast water, too swift for the combined power of diesel and kickers. Allan Ritchie Jr. and Edwin Gallbreath handle the boat with Al, and in this pinch they drag a steel cable upstream across the river in a skiff and tie it to a tree. With a couple of turns around the capstan, the cable tightens and the *Judith Ann* pulls herself through the waves of rushing water with no trouble at all.

There are two other concessions to the tough Stikine. One is a depth finder—an absolute essential since the river is murky with glacial silt. The bottom is invisible in less than a foot of water. The finder probes this murk and records depth by light pips nervously bouncing on a radar-type screen. The other adaptation to the river is a tunnel drive. Where water is shoal but not swift, the pilot can haul the twin screws up into tunnels in the hull. As a result it's possible to get by, even with a load, in as little as 3.5 feet of water.

After the '98 rush died away there was a long period of comparative quiet on the Stikine, and the last paddlewheel quit around 1915. Still visible on the bank is a decaying pile of cordwood racked up for that steamer. World War II revived the old hectic days of '98, and river traffic boomed again. The big Watson Lake airfield was constructed with material brought up the Stikine to Telegraph Creek, trucked to Dease Lake, and then carried by boat on the Dease and Liard Rivers. Adding the Frances River, a tributary of the

Liard, there are 400 miles of navigable river in the huge interior country between the Coast Range and the Rockies, and much of it was used in the emergency.

Once the Alaska Highway was completed, freight for Watson no longer travelled by boat and again the river settled down to a quiet existence. Traffic today is chiefly supplies for two stores, the Hudson's Bay Company and Steele Hyland, at Telegraph Creek, and for an occasional miner. There's also gasoline for the government road crew and the B.C. snag boat which clears fallen trees from the river, aviation gas for the float planes and helicopters used by exploration companies and miners probing the back country, and gas for outboard-powered skiffs which use the rivers and lakes like roads.

The *Judith Ann* links the people of Telegraph and the great interior country with the outside world during the navigation season from early May till late September. The crew good-naturedly runs a personal messenger service for many items needed by miners, ranchers, and others who live in Telegraph and beyond. So the boat is more than transportation, it's a friend.

The *Judith Ann* is first of all a work boat, specially designed for shoving a loaded barge against the strong current. That current is generated by a 650-foot rise between the mouth near Wrangell and the end of the line at Telegraph. Like other work boats, there are no fancy frills. Half a dozen staterooms each contain 2 very comfortable bunks knee deep in warm blankets. They are needed with all that ice around. There's a small, efficient galley, a pilot house, engine room and cargo hold, and that's all so far as the boat is concerned. But in addition there are fine friendly people on the *Judith Ann*, knowledgeable about the country and willing to share it.

This trip is not for those with ants in their pants. The purpose of the *Judith Ann* is to deliver freight safely, and freight is not in a tearing hurry. It would be possible but not economical to go a little faster, but a small saving in time does not warrant a huge increase in fuel consumption. So the boat fights its way up the crooked shifting channels at 4 or 5 miles per hour. This is good medicine for ulcers and all the similar by-products of high-pressure living. There's nothing to do but look, and there's so much to see that all the time is needed for it.

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Sailing date is Monday out of Wrangell, exact time depending on the amount of cargo to be loaded and on the tide. With a full load the *Judith Ann* needs high tide to ease across the wide mud flats which the Stikine has spewed out into the ocean. Tie-up time is about 10 p.m. when it becomes too dark to follow the channel, and the boat is made fast to any handy tree. At four next morning the trip resumes. On this schedule, Telegraph Creek is reached in some 36-40 hours on Wednesday or Thursday, again depending on load and stage of the river. In contrast to this rugged uphill haul, the run downstream is made in about 15 hours, generally arriving at Wrangell sometime between Thursday evening and Friday noon.

The two towns at opposite ends of the boat's run both have roots in history, but otherwise they are completely different. Telegraph owes its beginning to wire. In the last century a telegraph line was projected around the world from New York to London. It was to cross the North American continent, go through the Yukon and Alaska, under the Bering Straits, and to Europe via Russia. Substantial progress had been achieved, but when the Atlantic cable was laid the telegraph line folded. Scattered through northern British Columbia were many log cabins full of wire. One of these depots, a siding on the Canadian National Railways north of Kamloops, is still known as Wire Cache. Line crews had pushed construction through to Telegraph Creek when the success of the cable killed the wire. So Telegraph Creek became the end of the road, the last outpost of civilization in a great hinterland. The telegraph line is now replaced by a government radio station.

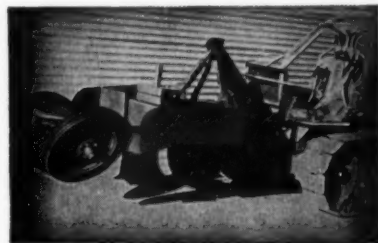
The Hudson's Bay Company has maintained a post (now store) here for many years. The fur trade has almost dwindled away, and while traps, packsacks, and rifles are still for sale, the store is more like a small town general merchandise outlet than an old-time trading post. The Bay Company also operated one of two hotels, but now there are none. An overnight traveler is a rarity and he can generally find hospitable shelter in one of the homes.

Most of the 200-odd people around Telegraph are Indians. There's an Indian agency, a Royal Canadian Mounted Police headquarters, a post office, Anglican and Roman Catholic Churches, a few frame

buildings, and quite a collection of log houses. Upstream from Telegraph proper is a weathered row of log cabins known, with typical frontier humor, as Drytown, because it was so wet. This was saloon row in the gusty boom days. The saloons are long gone and now the natives have moved into the stout cabins.

One thing strikes the eye immediately. A cord of wood here is an important unit of measure. The winters are long and bitter, and foreign fuels are costly to import. The native jackpine is easy to cut and it burns readily, so there are great piles of cordwood or shorter stove wood all over town. Here's a harking back to boyhood days for many people now trapped in oil-heated apartments. Despite its primitive nature, Telegraph is interesting because it is so very different; no blandishments of soft city life here—make your own way or else.

On a gravel bench high above the town is the graveyard, both Indian and white. Many of the headstones date back to the days of '98, and there are a few grim reminders of World Wars I and II. Most unusual are the Indian customs. Some of the chiefs were cremated and their



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Following is a paragraph suitable for incorporation in will:

"I hereby give, devise and bequeath \_\_\_\_\_ to The American Forestry Association, Washington, D. C., a non-profit District of Columbia corporation, or its successor, or successors, for the purpose of promoting the corporate activities of said Association."

### THE AMERICAN FORESTRY ASSOCIATION

919 Seventeenth Street, N.W.  
Washington 6, D. C.

ashes placed in trunks in a small house. Other graves are covered by wooden boxes or canvas tents. There are no totems, but one huge wooden head stands guard over the cemetery.

Wrangell, like Telegraph, has seen much more boisterous days, but it is still an active seaport of 1250 people. It is a regular port of call for freighters out of Seattle and occasional Canadian cruise ships dropping by in the summer. Two airlines whip flying boats in and out almost on a trolley-car schedule. This explains a windsock on the end of the breakwater—the ocean is Wrangell's airfield.

The letdown from the Gold Rush has not been complete as it was up the Stikine, for the town long antedated '98. The Russians were here many years ago, and in 1834 one Dionysius Zarembo built Fort St. Dionysius. The Indians were early dwellers too, and raised here some of the most striking totems on the North Coast. There is a fine collection of poles on Chief Shakes' Island in the harbor, and others are scattered around town. More were destroyed in Wrangell's disastrous fire of 1952.

Fishing and logging sustain the town today. Salmon and halibut boats berth here, and there are three shrimp canneries to process the local catches. Japanese interests own a sawmill in town and a Portland, Oregon, firm is building another

mill six miles south on the shore of Wrangell Island. There's great wealth, of course, in the coastal Sitka spruce and western hemlock. Trees do not reach very far up the mountains, but much of the timber is readily logged into the ocean where rafting permits low cost transportation.

Up the Stikine the wide valley bottom is covered with splendid fast-growing cottonwood, and from the river mouth all through the Coast Range are stands of Sitka spruce, hemlock, and fir. After breaking through the coastal mountains into the drier interior, the wet belt trees give way to jackpine, white spruce, birch, and aspen. This interior Casiar country, as it is known, is a fabulous unspoiled hunting territory somewhat like the famed Caribou country to the south. Hunters can outfit at Telegraph, and they may get guides there or at ranches which cater to hunting parties.

Lush forests, plentiful game, restless river, majestic mountains, and fine people make this an unforgettable trip. For those sensible persons who decide they must take it next year, Ellis Air Lines runs a daily round trip from Prince Rupert, B.C., to Ketchikan, Alaska, and thence on to Wrangell. Another route is to fly Pan American or Pacific Northern from Seattle to Annette Airfield (Ketchikan), then by Ellis Air Lines to Wrangell.

## Watershed Congress

(From page 17)

sored by local organizations in all cases. There are now a total of 19 going projects on the forests, 12 in western states and seven in the East.

This year's Congress presented a greater array of top officials and water experts than any other to date. Some of their comments:

**Governor Cecil H. Underwood**, of West Virginia—" . . . The problem is obvious. The need for federal assistance is obvious . . . not because the local people cannot bear their share but because the program is expanding at such a rapid rate. More and more areas are becoming interested in developing their local up-stream potential. Congressional appropriations are not keeping up with the increasing number of applications. Provision for 32 new starts per year in the nation scarcely seem adequate when there is a potential for 270 projects in West Virginia alone."

**Governor Herschel C. Loveless**, of Iowa—"In view of the great importance of conserving our soil and water resources both now and in the more 'delandling' future, it almost goes without saying that our states can do more because they will hardly be able to escape doing more. Even now, we can see that as our watershed program goes forward, there will be an enlarging residual responsibility for maintaining dam structures and other installations."

**Charles B. Shuman**, president, the American Farm Bureau—"This spring's disastrous floods in the Mississippi and Missouri valleys have again demonstrated that downstream flood control projects save neither soil nor water. . . . We need less money for costly downstream dams and more money to prevent flood damage by controlling water upstream."

## We Tramped the Idaho Wilderness

(From page 33)

taped our blisters, and then zig-zagged back and forth across the north wall to emerge from the box canyon. When we reached the summit and sighted a heart-shaped lake nestled among the pines on the mountain top, we groped for superlatives. But we had walked into another box canyon and had lost our trail. Our sketchy maps were useless; no feature of the country was marked. Our decision was to walk due west. It meant we must climb over the highest summit encountered so far. As we gained altitude, we stopped talking so that we could gulp down the needed oxygen.

Our struggle up to the summit was an exquisite mixture of pleasure and pain. The wind whistled and roared through the saddle-shaped crest of the summit. In any direction we looked were rolling waves of jagged, green-patched mountains interlaced with innumerable twisting mountain streams. Our dramatic view of one of the wildest, most savagely beautiful areas on the face of the earth enabled us to locate features that seemed to match our maps. We could see a possible route to what should be the middle fork of the Salmon River. It was not hard to believe the fantastic rumors we had heard that there are a few Sheepstealer Indians untouched by civilization still hidden in this great land mass.

That night after we had bathed and tried to wash a few clothes in ice water, we slept in a little grassy meadow. Next morning when we crawled out of our dew-soaked sleeping bags, a three-point buck grazed a short distance away. With a downward course, we experienced the steady pounding on our feet produced by carrying a heavy pack downhill. Blisters started to appear in new places, pack straps rubbed our shoulders raw. But we were covering territory rapidly and there were more indications that we

were on the correct route. Our trail led away from the creek we had been following.

By noon we were high on a hogback of a dry, brown mountain with only enough water in our canteens to mix our dehydrated foods. The sun beat down on us on that barren mountain without mercy. The upward course of the hogback came to an end. We walked in spurts, stopping in shade to cool down. Then we sighted a sliver of water tucked in a deep canyon several miles away and thousands of feet below us. This had to be the middle fork of the Salmon River, but we weren't sure until we had walked farther and saw the mouth of what we believed to be Big Creek. Now we knew where we were. Our only problem was to keep going without water for a few more hours. Before we reached the river, three of us fell on the ground; we were near exhaustion. But when we reached the river, we restrained our impulse to gulp water. We took off our clothes and tried to soak in moisture.

In this condition we played host to the first humans we had seen since we left our kick-off point. Two rubber rafts bobbing around a bend in the river carried six tousled adventurers who were attempting to float through the primitive. They were lost. We were able to tell them where they were, but we had to warn them that a few miles downstream they would have to attempt to pass through the canyon termed "impassable" by the U. S. Army in its campaign with the Sheepstealers.

Our guests departed after expressing sympathy for us because of our long walk ahead, rattlesnakes,

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blisters, and bears. We, in turn, wondered if they would make it through the "impassable canyon." We have no way of knowing whether or not they did.

When we stopped that night on the Middle Fork, the canyon walls were so steep that we could not find room to roll our five sleeping bags. We had to dress, hoist our heavy packs, and walk another half mile downstream before we found a comparatively flat area. Fishing here was excellent; a limit could be caught in half an hour. Fresh food tasted good; some of us ate a half dozen trout for dinner that night. We even roasted a squirrel, a rather strong-tasting delicacy.

We spent one day on the Middle Fork resting and exploring for Indian paintings which we found about four miles upstream from our camp. No living Indian can tell what messages the painters were trying to convey, where they got their almost indestructible paint, or what use other Indians made of the paintings.

Leaving the Middle Fork on a course up Big Creek, we dubbed our lead man the snakeherder. During rest periods we poked around the rocks we used for seats. We checked our packs for snakes whenever they had been on the ground for any time.

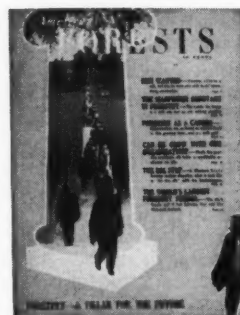
Hiking along Big Creek was easy. We had been eating off our packs, we had all the trout we wanted, and we were in such fine physical condition that usually by noon we had covered our daily quota of miles. Our afternoons were free for rest, fishing, and exploring more Indian caves and paintings. We discovered the most inaccessible monument in the United States, a white marble shaft erected to the one soldier killed in the Sheepeater campaign in the last Indian War in Idaho.

Shortly afterward, we met a huge grizzled hermit. We had encountered the first human resident of the primitive area. To detain us, he offered us our fill of fresh strawberries from his patch across Big Creek. He had strung a small cable between two trees across the river. Two pulleys, some wire, and tree limbs completed the construction of a "cable car." Only the lure of fresh strawberries on the far bank induced me to lock a death grip on the wire slings then hold my breath while someone gave my car a push to send me hurtling across that roaring river.

We gorged ourselves on strawberries and offered to pay. Our host

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was insulted. He informed us that in the wilderness money was useless; it would burn a hole in his pocket.

The hermit's log cabin had a dirt floor and was furnished with a bed, table, and chairs made out of saplings. After we had talked a few minutes to our host, it was apparent that he had completely lost any concept of time, but we estimated he had been holed up in the primitive area for over thirty years.

Obviously his little patch of ground could not support him. The hermit gave us a few leads to answer our inevitable questions: Where did he get the money to buy not one but several expensive rifles; what was his status in life before his retreat; why had he escaped from civilization?

He did tell us his name was John Vine and he had lived in San Francisco during the depression following World War I. He was so clearly an intelligent, cultured individual that we felt we had no right to attempt to strip further the mystery from his life.

He did not tell us why or when he had come to the primitive area. He had found the cabin standing and moved in.

"I made a serious mistake when I built that rocking chair," he told us. "I've been sitting in it ever since."

And, "A few years ago I cut a log for a new cabin. Then a few years later I cut another. But I am too busy to get much done."

John explained an odor. He had killed a bear near his cabin some time ago but by the time he got around to burying the bear, he couldn't get near it.

The cabin was roofed with canvas because a year ago a bear climbed to the roof and fell into John's combined living room, dining room, bedroom, and family room. A bullet hole in the front door gave evidence of how John removed a bear that had been leaning on his front door. John commented, "That's one thing I just won't tolerate around here."

John had plenty of deer, elk, moose, bear, mountain sheep, salmon, and trout; other foods he packed in.

When the time came to part, we realized that the leading inhabitants of John's town, the bears, had caused us no trouble during our visit. At the slightest noise, they had merely loped off into the woods. As we left him, John warned us:

"You'll find an old barefoot hermit named Dewey down the trail a ways." Our last impression of John's domain was a crude sign near his cabin, "Hindquarters." We got the joke a few days later when we saw the sign "Headquarters" over the Forest Service Building at Big Creek.

We encountered Dewey the next day; he was no hermit, he wore shoes, and he supplied many answers to our questions about John. Vine was a retired Army Major with a regular monthly retirement check. And Dewey told us that he himself had been in the area so long he had known personally one of the Indian scouts that the U. S. Army had hired to win the war against the Sheep-eaters.

We, who were nearing the end of our trip through Sheepeater country, felt a deep respect for the Indians who had managed to survive here. Even with dried foods, specially built shoes, warm clothing, sleeping bags, and a first-aid kit that could handle everything from snake bites to diarrhea, we had experienced all the hardship we wanted. But the sight of our goal, the point where the road and civilization begins again, brought forth little comment from our party. We weren't overly pleased to see our ultimate in adventure come to an end.

We had spent nine days covering an estimated sixty miles on foot. To be whisked down a road in an automobile at 60 miles an hour seemed strange.

Civilization is wonderful. But we should all be happy to know that a segment of primitive land, a retreat for those who wish to escape from the crowds and pace of modern living, has been preserved for those who wish to pit their strength and wits against it.



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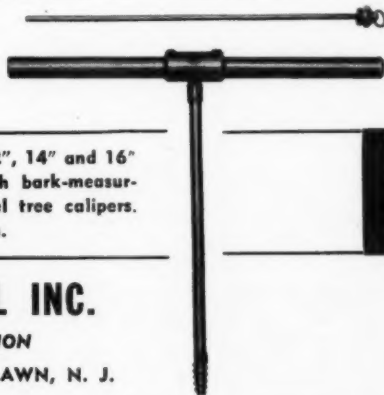
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